

American Fruit Grower

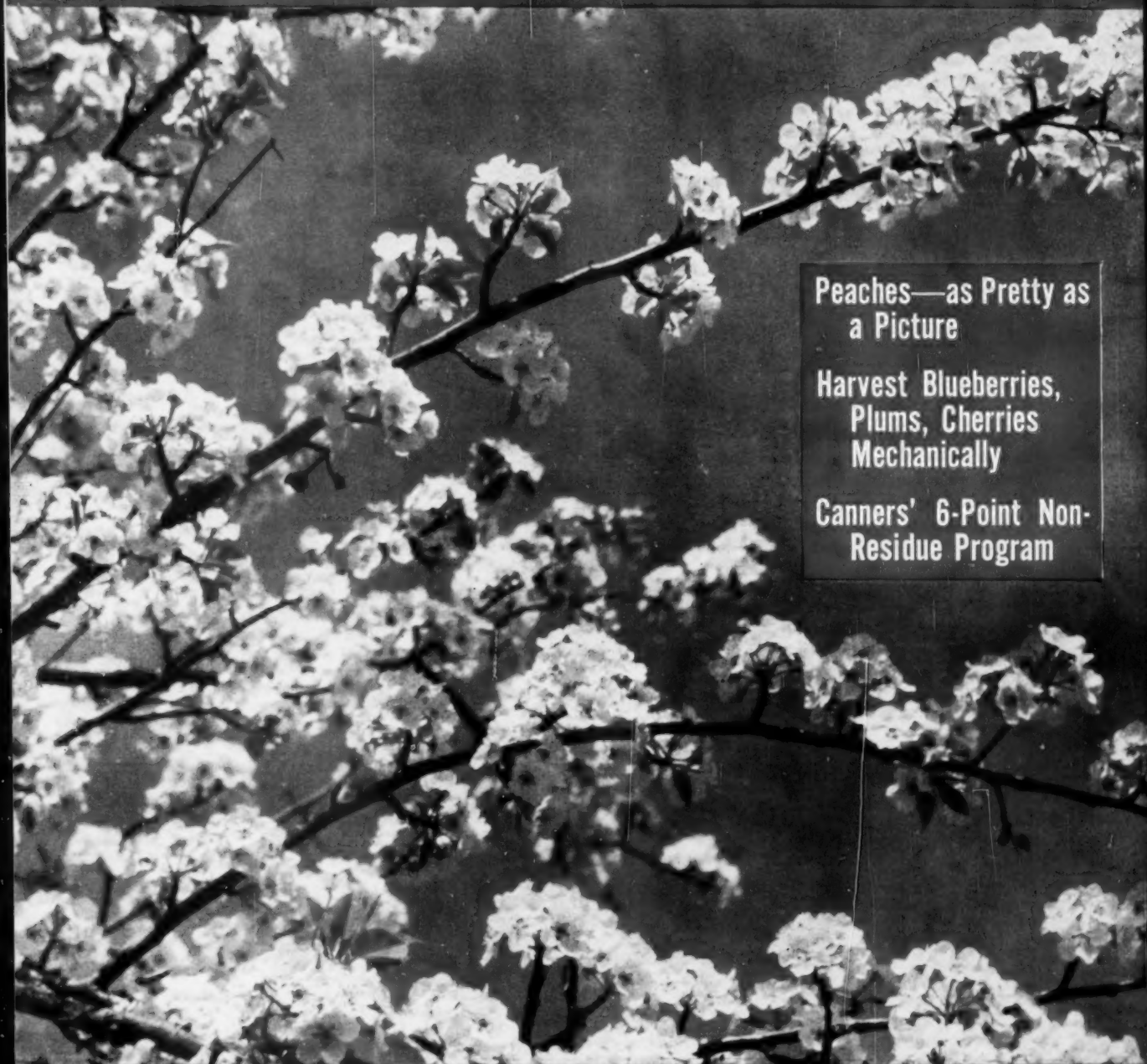
APRIL • 1960

25 CENTS

PRODUCTION

PACKING

MARKETING



Peaches—as Pretty as
a Picture

Harvest Blueberries,
Plums, Cherries
Mechanically

Canners' 6-Point Non-
Residue Program

Streamline the Road to Market with Marketing Orders



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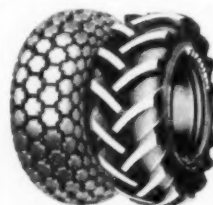
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TRUCK—
ALL
TRACTION

CAR—
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*Firestone T.M.

ALWAYS A YEAR TO PAY

Firestone

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Light weight, heavy duty pruners designed and manufactured to the highest professional standards. Clean, fast healing cuts, complete reliability and long trouble-free service life.

SNAP-CUT
No. 1149
\$7.50



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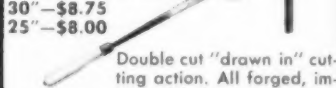
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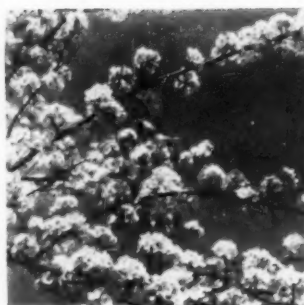
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SEYMOUR, SMITH & SON, INC.
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or write
for free,
descriptive
literature.



Cover photograph by Paul Hadley shows pear blossoms silhouetted against a spring sky.

American Fruit Grower

VOL. 80

APRIL, 1960

No. 4

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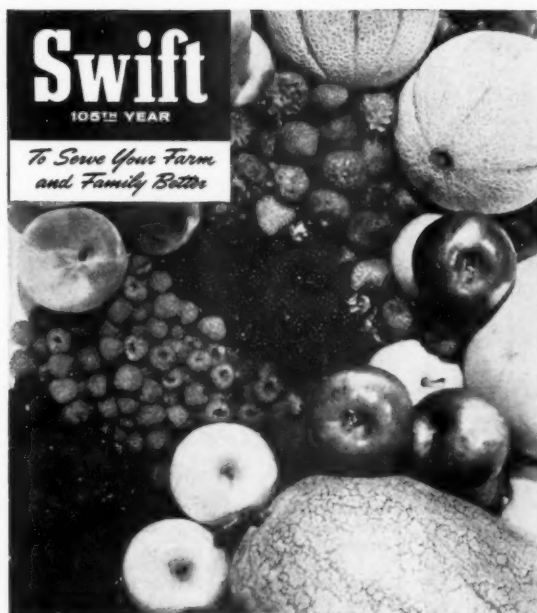
Great Money-Making News for the Growing '60s

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specific plant foods for each important crop



GOLD BEAR—Control weeds and insect pests and diseases with Swift's Gold Bear pesticides. They're guaranteed for quality.



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WHEN YOU'RE FARMING TO MAKE MONEY, SWIFT'S YOUR FINEST BUY!

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Certified Formula crop foods are all new for 1960! Each grade is based on the latest scientific information for your specific crop and is formulated by areas to take advantage of the nutrients in your soil.

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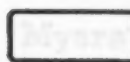
MODEL NUMBER	ENGINE	TANK SIZE	FAN TYPE	AIR-CLASS C.F.M.	REMOTE CONTROL DISCHARGE
58120-232ET5	Water Cooled Gasoline	500	Twin 32" Centrifugal Fans	80,000 at 80-90 MPH	Touch-Matic***
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6095-225ET4	Water Cooled Gasoline	400	Twin 24" Centrifugal Fans	45,000 at 80-90 MPH	Touch-Matic***
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LETTERS TO THE EDITOR

Blackberries in New York

Dear Editor:

I've just received my first copy of your magazine and found it very interesting, and I can see why it is a good handbook and guide for any fruit grower.

Because I too am raising blackberries as my main crop, I was interested in the letter from Marion Stokes of Kentucky. I have tried other strains in past years, but now I have only the new Ebony King. It does so well here in New York's Finger Lakes region that I am planting several more acres this spring.

For nearly 50 years this has been a noted black raspberry section, and many growers have reaped nice little fortunes some years. After long experience, I switched over to blackberries because this fruit brings a better price over a period of years. They are more hardy and disease resistant than red raspberries and quite like a vineyard in that once they get started they are good for nearly a lifetime with proper care.

In this location we have an excellent market for fresh picked berries, and nearby wine manufacturers make another good opportunity for sales. To offset any slump in price in an off year, I am equipped to handle my own crop by pressing the juice for homemade jelly, which sells very well here.

Tyrone, N. Y.

Albert Westfall, Sr.

Dwarf Tree Fan

Dear Editor:

I find AMERICAN FRUIT GROWER of great value to me. I propagate dwarf fruit trees: apples on EM IX and on native crab apple, pears on native wild thorn, stone fruits on P. tomentosa and P. Bessyi. Next year I want to try Amelanchier as a rootstock for dwarfing.

Dr. H. B. Tukey started me off on dwarf apples way back in the '30's when he furnished me with EM IX when he was in Geneva, N. Y. I have lugged that start of EM all over the country and have transplanted it nine times in as many locations. Vida, Ore.

Harry Eriksson

Peaches for Cold Regions

Dear Editor:

I wonder if some of your readers are interested in how to grow peaches under difficult conditions. Perhaps they have some suggestions to offer.

I have been trying to grow peaches and apricots in my orchard in southern Vermont for the past 15 years. The trees have survived, even though they have seldom borne crops.

Peaches are grown commercially in Vermont, but it is something of a gamble. The problems include our 1800-foot elevation, exposure to northwest winds, and winter temperatures below —20°F. Sherborn, Mass.

G. H. Leining, D.D.

Orchids to Us!

Dear Editor:

I wish to express my appreciation to the editors of your practical, authoritative magazine for the consistent service rendered the thousands of fruit growers like myself.

I am now preparing ground for a trial orchard on a 30-acre tract of loamy upland on the Cumberland plateau near Crossville, Tenn.

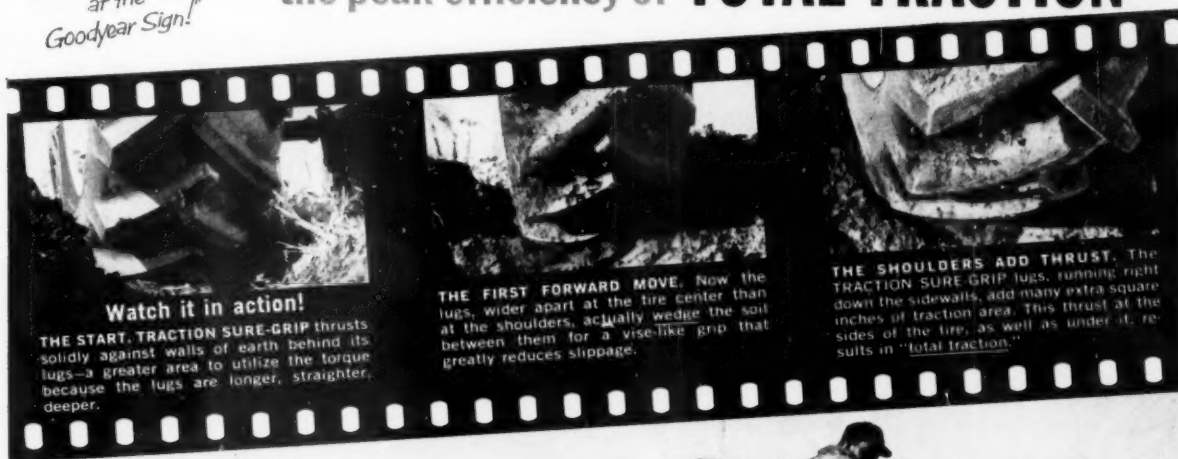
R. B. Gerhart

AMERICAN FRUIT GROWER



"They treat you fine
at the
Goodyear Sign!"

only with **TRACTION SURE-GRIP** the peak efficiency of **"TOTAL TRACTION"**



Watch it in action!

THE START. TRACTION SURE-GRIP thrusts solidly against walls of earth behind its lugs—a greater area to utilize the torque because the lugs are longer, straighter, deeper.

THE FIRST FORWARD MOVE. Now the lugs, wider apart at the tire center than at the shoulders, actually wedge the soil between them for a vise-like grip that greatly reduces slippage.

THE SHOULDERS ADD THRUST. The TRACTION SURE-GRIP lugs, running right down the sidewalls, add many extra square inches of traction area. This thrust at the sides of the tire, as well as under it, results in "total traction."



Above you actually *see* why TRACTION SURE-GRIP costs less to own—how it produces more travel per wheel turn, does more work on less fuel.

And it's built for more years of trouble-free wear, too. The reason: TRACTION SURE-GRIP is made with mighty 3-T processed Cord—triple-tempered by Goodyear's exclusive process involving Tension, Temperature and Time. It results in the strongest known safeguard against bruises, buckle breaks, cracks.

TRACTION SURE-GRIP gives you *more tire per dollar than any other made.*

ON-THE-FARM SERVICE. Your Goodyear dealer is equipped to deliver, mount, fill or repair tractor tires right on the farm. He'll supply free loaners while your tires are being repaired or retreaded. He'll give you expert help on tire maintenance. Call him in to quote you on his extra-liberal trade-in tire allowances! Goodyear, Farm Tire Dept., Akron 16, Ohio.

Tops in front tire performance

NEW SUPER-RIB

3 ribs for
better steering,
better flotation,
better wear!



BUY OR SPECIFY FARM TIRES BY

GOOD YEAR

Sure-Grip—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

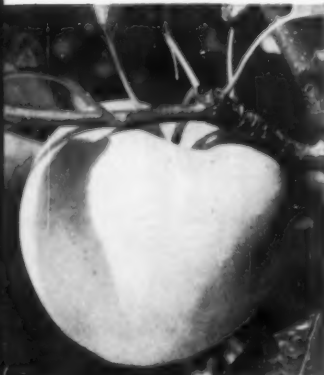
MORE FARMERS PREFER GOODYEAR TRACTOR TIRES THAN ANY OTHER KIND

Produce new and



ON APPLES AND PEARS

Codling moth, pear psylla, apple maggot, green apple aphid, red-banded leaf roller, plum curculio, fruit tree leaf roller, periodical cicada, rosy apple aphid.



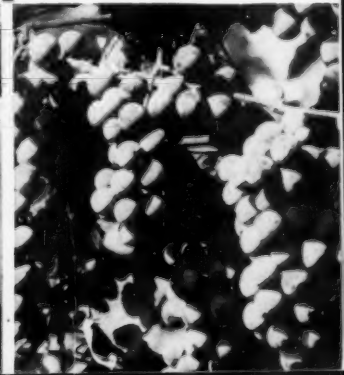
ON PEACHES

Oriental fruit moth, peach twig borer, cat-facing insects, plum curculio, periodical cicada.



ON GRAPES

Grape leafhoppers, grape leaf folder, grape berry moth.



better fruit with this different insecticide!

Now you can knock out the toughest strains of codling moth and many other important fruit pests with powerful new SEVIN insecticide. Developed through years of intensive research, SEVIN is an entirely new kind of insecticide containing no phosphate, chlorine or arsenic. SEVIN is a carbamate—an outstanding new insect destroyer that gives you many unique advantages.

Simplify your spray program with SEVIN. It gives you positive one-product control of important fruit insects. Resistant codling moth and many other hard-to-kill insects are easy to control with normal-strength applications of SEVIN.

The long-lasting residual effects of SEVIN have been proved by thousands of fruit growers. SEVIN is a highly potent and persistent insect killer.

SEVIN scores high on safety in use—both to the man who applies it and to other orchard workers, to nearby residents, and to animals. SEVIN is less toxic, safer to use than most other insecticides. No special protective

clothing is needed. All you do is simply observe normal precautions.

Use SEVIN close to harvest if necessary, to prevent damage by late brood insects. Just follow label instructions. Fruit finish is excellent with SEVIN.

SEVIN is compatible with miticides, fungicides and most other spray and dust materials. It is easy to use in dilute and concentrated sprays and in dust applications.

Order SEVIN now and get all the many benefits it can give you in growing finer fruit. See your supplier today for powerful new SEVIN insecticide.

UNION CARBIDE CHEMICALS COMPANY

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**UNION
CARBIDE**

ON CHERRIES, PLUMS AND PRUNES

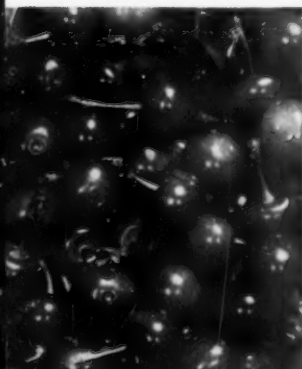
Cherry fruit flies, red-banded leaf roller, fruit tree leaf roller, peach twig borer, plum curculio, codling moth, orange tortrix, eastern tent caterpillar, western tussock moth.

ON STRAWBERRIES

Meadow spittlebug, strawberry leaf roller.

ON NON-BEARING CITRUS

Western tussock moth, orange tortrix, fruit tree leaf roller and citrus cutworm.



WHAT 7 THINGS HAPPENED RECENTLY AT FRICK COMPANY* IN WAYNESBORO, PENNA. ?

7 important things for  and you:

1. First of all, on a foundation of our 107 years' experience, our new management has established a growth policy that stresses new product development, quality control, and expansion of field services.
2. New branch offices are being opened and the sales-engineering staffs of existing branches as well as of the home office are being increased.
3. A compressor of new design is being developed. This, like our current dependable line, will handle a variety of refrigerants such as Freon, ammonia, propane, butane and carbon dioxide.
4. A new circulating system using refrigerated sea water has been introduced to commercial fishing fleets, at a saving to boat owners.
5. Completely insulated Shell-Ice makers have been "packaged" for convenient field installation.
6. Service to the growing poultry industry has been highlighted by our new counter-flow-continuous poultry chiller, which uses refrigerated water instead of ice.
7. As part of the growth policy, we are increasing the number of Frick distributors. Some of our distributors have been with us 50 years.

All of which indicates one thing: Frick is "on the move!" If you're passing through Waynesboro this summer, stop in and see for yourself; you'll be able to enjoy our remodeled and air conditioned offices.

FRICK COMPANY
Waynesboro, Penna.

*Pioneers in dependability since 1853: air conditioning, refrigerating, ice making and quick freezing equipment, power farming machinery and portable sawmills.

ASSOCIATE EDITOR AT WORLD CONFERENCE

DR. H. B. TUKEY, head of department of horticulture at Michigan State University and associate editor of *AMERICAN FRUIT GROWER*, represented the United States at the council meeting of the recently formed International Society for Horticultural Science. The meeting was held at the Hague, The Netherlands, March 24, 25, and 27.



In addition, Dr. Tukey served as a representative from American Horticultural Council at the opening of the six-month International Horticultural Exhibition, "Floriade 1960," which opened at Rotterdam, The Netherlands, on March 26. (The name Floriade is interpreted "the meeting of flora from all countries.") The American Horticultural Council is sponsoring and staging the American exhibit at this exposition.

International Society for Horticultural Science has been formed in recognition of the growing interest in the science of horticulture throughout the world. Each nation has developed its own scientific group working in horticulture, holding regular scientific meetings for the exchange of information and publishing various scientific journals and periodicals.

The need now is to draw these units together at the international level. Contributions from Russia, Japan, India, South Africa, and South America, for example, are valuable and useful in the United States and vice versa.

ART DIRECTOR WINS PRIZE

HONORS were recently bestowed upon George M. Ross, art director of *AMERICAN FRUIT GROWER* and *AMERICAN VEGETABLE GROWER*. Vacationing in the citrus area of Florida, Mr. Ross took time out to reminisce and produce a water color, "Memories in Abstract," for which he was awarded first prize at Pinellas County art fair.

The work of Mr. Ross is evident in each issue of our publications since he has charge of layouts and cover designs.





from bloom on, use NIACIDE fungicide

for a crop that's tops in finish, color and yield

— After the onset of bloom, you need a fungicide that's death on scab and other diseases, but easy on blooms and the tender finish of young fruit. Niagara Niacide fills both bills.

You can't get better control of scab than Niacide provides. And Niacide is exceptionally bland. No matter how foul the weather at the critical formative stage, fruit won't develop a rough finish due to Niacide. Niacide is safe then . . . safe right through to harvest. It leaves no spots on fruit or foliage . . . is so mild that even the most russet- and netting-

prone varieties mature naturally . . . without blemish.

You'll find Niacide compatible with other orchard chemicals too. Other advantages: There's no danger of promoting the spread of mildew, a side effect experienced with some other fungicides. And Niacide apples keep better in storage.

Prize-winning growers in all sections of the country give Niacide credit for crops unsurpassed in overall quality and yield. It can do the same for you. Ask your Niagara field man for further details. He will be glad to plan a Niacide program that will protect your orchard from bloom on . . . right through to a more profitable harvest.



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Niagara Chemical Division

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Extend your cutting reach

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Here's help to make orchard maintenance faster, easier, and more efficient. In at least two ways, a John Deere Gyramor Rotary Cutter puts more working ability at your command.

You can tackle tough jobs. For example, shredding up windrows of prunings to avoid the need for hauling and burning. The 527 Gyramor (left) is an offset cutter that's built to stand up to this kind of punishment. The right-hand rotor revolves counter-clockwise, helping to pull in the prunings.

You can work in tight quarters. The 7-1/2-foot 527 is offset 75 inches to the right of the tractor drawbar, to get in under low-hanging branches. You can also use a 5- or 5-1/2-foot Gyramor to slip in between trees and supporting poles. Whatever your need, there's a rugged Gyramor to satisfy it.

Make sure the rotary cutter you buy has what it takes for long, hard service and low maintenance. See your John Deere dealer for complete information.



JOHN DEERE

3300 RIVER DRIVE • MOLINE • ILLINOIS

PEACHES . . .

"as pretty as the pictures in the **NURSERY CATALOG"**

Ralph McUmb didn't believe the colors in the catalog but today his peaches vie in looks with those which inspired him to plant an orchard

By A. N. PRATT

SOME years ago Michigan Agricultural Experiment Station published a bulletin in which the author, H. P. Gaston, analyzes 25 items which he considers a fruit grower should have or be or do to assure the success of his enterprise. Measured against this check list, and based on nearly two decades of close association, we found Ralph McUmb of Greenfield, Tenn., scored good or better on 20 points; three were doubtful and two, poor. The score, based on the Good Book, "... by their fruits, ye shall know them," would be equally high.

Knowing Ralph to be a humble, almost shy person, we hesitated to pry into his background to find some roots for this story. His story revealed much of what went into the "making of the man."

Ralph was born at "St. Jo," Mich., in 1883, and came with his family to Greenfield in 1890. They cleared and grubbed 13 acres of woods from their first farm—36 acres—and the rest of the farm was in gullied and badly eroded crop land. The soil, however, was good Memphis loam.

By the time of the depression, Ralph had added a second farm of



Ralph McUmb, Greenfield, Tenn., in Golden Jubilee block of peaches. Photo taken in 1941.

75 acres and brought both into a high state of fertility. These were general farms, growing corn, cotton, sweetpotatoes, some berries, and asparagus and, of course, livestock. Up until 1930, Ralph says he could lay no claim as a fruit grower, although, at one time he grew 16 acres of blackberries.

What caused the shift to orcharding? Labor difficulties—sweetpotato harvesting was hard work and he needed 60 hands for his acreage. He was studying a change in crops when the mail brought him one of those handsome nursery catalogs.

The color print of a peach tree full of luscious, red-ripe fruit intrigued him. He confesses that, at the time, he thought the picture faked—a peach tree just couldn't look that good! Nevertheless, he ordered 500 peach trees which he set

in 1931. He planted strawberries as an intercrop—a practice he has followed with each successive planting.

Keep in mind that Ralph was then 48 years old and had had no experience in tree fruit culture. There were no commercial orchards in the area and no orchard-trained labor available. It would be considered a gamble at long odds, yet he was able to make it pay off, mainly through sheer pluck, unstinted toil, and the ability to choose and to handle workers—qualities which earned for him the first Master Farmer award in a statewide contest.

In his list of essentials, Gaston did not mention "luck," probably because we are too prone to give it undue credit or blame. At any rate, Ralph was lucky to be able to engage a neighbor, Jesse Needham, to

(Continued on page 51)

BLUEBERRIES..PLUMS

can be

THE stream of migrant workers which once flowed through the fruit producing areas of the United States at harvesttime is drying up. Hand-picking costs are already high, and the shortage of help is likely to force them even higher. Many growers say that unless machines are developed that will fill the gap left by the human pickers who do not come back, they may be forced out of business.

Investigators of fruit growers' problems have long been aware of the need for harvesting machines. During the 1956 season, USDA and Michigan State University initiated co-operative studies, the purpose of which was to develop machines that would do the work now performed by human pickers when they are no longer readily available and lower harvesting costs.

It took time to work out the fundamentals but by the spring of 1959 the basic principles involved had been pretty well established, and mechanization made significant advances during the harvest season of that year. The fact that mechanization is feasible on a commercial basis was demonstrated.

Commercial plantings of blueberries, cherries, and plums were harvested with machines, and there is reason to believe that much larger tonnages of these crops will be handled in the same way during the coming season. Experimental work is underway which it is hoped will lead to the development of equipment that will enable growers to mechanize the harvest of still other fruit crops.

A practical method of mechanical harvesting must provide: 1) a means of separating the fruit from the plant or tree; 2) the equipment needed to collect the separated fruit; and 3) a means of cleaning and handling it after collection.

It has been found that blueberries can be separated effectively by means of a hand held vibrator that moves

Some of them may look like Rube Goldberg innovations but these harvesters are really doing the job quicker and with less labor

By H. P. GASTON, J. H. LEVIN, S. L. HEDDEN



Workers shake blueberries onto screens with portable electric vibrators. With vibrators, harvest can be completed 5 to 10 times faster.



Blueberries pass through air-blast cleaner (upper left) to remove foreign matter onto table where workers sort out immature fruit.

metal fingers through an amplitude of from $\frac{1}{4}$ to $\frac{1}{2}$ inch at the rate of 700 to 800 cycles per minute. When the vibrating fingers are held against fruit-bearing stems, the mature berries separate quickly and completely.

Most of the units used in 1959 were activated by small mobile gasoline-powered electric generators. One manufacturer is offering, for the first time this season, a unit activated by compressed air. Another one is at work on a continuous tractor-drawn

harvester which he hopes to place on the market in the near future.

Mechanically-picked berries can be collected in inexpensive wheel-mounted cloth-covered frames. These units can be rolled under individual bushes and moved easily from plant to plant. Leaves, twigs, and other foreign material ordinarily collected with the berries can be removed by passing them through an air-blast cleaner and over a short sorting belt.

The results of the blueberry trials might be summed up by saying—when care and effective equipment is used, machine-picked berries are acceptable in the market place. A vibrator can separate blueberries from five to 10 times as fast as the work can be done by hand. The 1959 trials proved that under favorable conditions mechanization lowers blueberry picking costs. More than 70 vibrating heads were used during the 1959 season and orders for many additional units have already been placed.

The experimental work conducted last season with red tart cherries proved that the hydraulically acti-

H. P. Gaston is a member of department of horticulture of Michigan State University. J. H. Levin and S. L. Hedden are agricultural engineers in the Agricultural Engineering Research Division of USDA. Headquarters for all three are at South Haven, Mich.

..and **CHERRIES** harvested with machines



Canvas covered fruit collecting unit used in cherry, plum harvests has hand cranked conveyor belt at lower edge to move fruit to central point. A second unit, without belt, was also used.



With hydraulic shaker mounted on tractor, worker separates cherries from tree onto collecting unit. Unit is made of sloping canvas covered metal frames mounted on wheels or skids.

vated shaker developed by Gould Bros., of San Jose, Calif., is an effective means of separating cherries from the tree. Other units are being developed and in the future fruit growers will probably be able to choose their equipment from a variety of units.

It was found that the separated fruit could be successfully collected by means of sloping canvas-covered metal frames mounted on either skids or wheels. The fruit collected in this way was successfully handled in both lugs and tanks of cold water.

On the average, mechanization

enabled growers to separate more than 95% of the cherries produced by a given tree and a crew of 10 workers could harvest from eight to 10 trees per hour. Care and good equipment enabled growers to maintain acceptable grades, and the labor cost of harvesting was materially reduced.

Overhead costs depend on how much the machines are used, and growers with small plantings may not be justified in buying machines.

It was demonstrated, however, that mechanization in large commercial orchards is feasible. One grower

harvested almost 2000 trees with machines and a small crew. The trials proved that machine-picked cherries can be successfully processed.

One Michigan packer said that the grade of the machine-picked fruit delivered at his plant compared favorably with that of hand-picked cherries. He stated that leaves, twigs, and other foreign material collected with the mechanically harvested cherries could be floated out during the soak period which precedes processing. The work proved that mechanization reduces costs and makes it possible for cherry growers to get along with less help.

The equipment used in harvesting cherries was also employed effectively in handling plums. It was found that this fruit separated easily and that collection and handling presented no serious problems. One of the processors who co-operated in the trials said that the leaves and twigs collected with machine-harvested plums could be removed at the processing plant without great difficulty.

While from 2 to 3% of the machine-picked plums showed evidence of mechanical injury, the packer stated that the grade was well within the limits of acceptability and that they would be glad to receive mechanically harvested plums during the 1960 season, provided, of course, that the fruit graded out as well as did the trial lots handled in 1959.

Some difficulties have been encountered. The undesirable features of mechanization should be carefully considered by growers who are contemplating the use of machines.

The vibrators used in harvesting blueberries tend to take off immature berries as well as ripe ones. These fruits must, of course, be sorted out and discarded. The machines tend to be expensive, and some mechanical difficulties have been encountered. Whether or not a blueberry grower uses machines should be determined on the basis of the acreage involved, the amount of help available, and other pertinent factors.

The equipment used last year in harvesting cherries and plums cannot
(Continued on page 59)

Streamlining the ROAD TO MARKET

Adjusting supply to demand—an age-old problem—is a bumpy road for growers. Marketing orders are helping to smooth out the bumps

By WILLIAM J. MONAHAN

FROM the Rapidan River Valley of Virginia to the Wenatchee apple country of Washington state—from Paw Paw, Mich., to Chula Vista, Calif., the men who feed the nation are stoking the caldrons of the Hot Stove League with dialogue, duologue, and debate on the marketing order approach to stability and solvency in agriculture.

A marketing order, basically, is a legislative tool designed to co-ordinate functions of an agricultural commodity—surplus management, quality control, research, sales promotion, and prohibition of unfair trade practices—under the direction of industry members, with democratic processes employed to establish the desired regulations and to elect the commodity directors.

The marketing order becomes the constitution of the commodity. An advisory board is the congress of representatives of geographical areas in the case of growers and of categories in the case of processors or handlers. The executive functions are vested in a staff of board-appointed employees. Enforcement authority is provided by general marketing laws enacted by state legislatures or by the federal Congress.

Fundamental purpose of marketing orders is to provide stability for an agricultural commodity, but specific functions vary from crop to crop and are determined by the desires of substantial majorities of growers or handlers engaged in producing and marketing a commodity.

Generally, marketing orders are not designed to fix prices nor to license participants in commodity production. Price negotiations are left to private enterprise procedures and entry into commodity production or handling remains a private prerogative.

There are distinctions between marketing orders and marketing agreements.

"A marketing agreement," points out Sidney Hoos, University of California agricultural economist,

Giannini Foundation associate, and a recognized expert on marketing orders, "is a voluntary arrangement between the government and individual producers or handlers of a particular crop and is binding only on those who sign the agreement. In contrast, a marketing order—once made effective by specific procedures—is binding on and uniformly applicable to all producers and handlers of the product for which the order is instituted."

As the topic of marketing orders moves high on the agenda of discussion of farm affairs among agricultural planners and grass roots operators, most eyes have turned for edification on the subject to California where orders have been in operation for a score of years.

The clingstone peach industry of California provides a classic laboratory test case for marketing orders. It has functioned under a state marketing order for most of the seasons since 1936 and is now engaged in the process of determining whether it will renew the marketing order under which it has operated since 1957. The present order expires in June and producers and processors of clings will vote this month on a new three-year order.

Enactment of the clingstone order—or any other—is much like a presidential campaign. Statewide committees of growers and canners have been meeting since last fall on provisions of the order, reviewing old

clauses, and debating new ones. The final wording was determined at a public hearing in March and then sent out to all producers and processors for a ballot decision.

To enact the order it is necessary to get written assent among California's 2600 cling growers from 65% of the producers representing 51% of the tonnage or from 51% of the growers representing 65% of the tonnage. The order will also need for approval the written assent of 65% of the processors by number or volume.

The clingstone order traditionally has been a joint grower-canner order but such a joint operation is not a requirement for all orders. Some are producer orders, some are processor orders, and some are joint programs.

In all fairness, it must be pointed out that the clingstone industry is an ideal one for marketing order operations. The crop goes almost entirely to commercial canneries (less than 1% goes to fresh or dry markets) and 98% of all clings are grown in the Central Valley of California. Furthermore, all canned clings grown in California are processed in California.

In the case of clings, practically all provisions that can be incorporated are contained in the industry's marketing order. Under California's marketing act it is not necessary for a commodity to exercise all possible provisions.

(Continued on page 54)

ABOUT THE AUTHOR

Bill Monahan, a native of Troy, N.Y., is a veteran newspaperman. From 1928-41 he was in New York state and from 1945-60 he has been in California. A four-year stint in the Navy accounts for the intervening years.

During his 15 years in California (he is located at Marysville in the heart of the peach belt) Bill has made fruit growers and co-operative associations his particular interest and as a result is unusually well qualified to write about their problems. His articles on *The Big Challenge* (Dec., 1959) and *The Inside Story on Grower-Owned Cal-Can* (Jan., 1960) have been widely read and discussed.





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Nuisance Dust Mask comfortably protects your lungs from fertilizers, grain dust, flour, cement dust, sawdust, and other dusts. Compact size permits unobstructed vision. Facepiece is molded rubber with snap-on elastic headband. Two exhalation valves assure easy breathing in heaviest dust areas.

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AGRICULTURAL GAS MASK for extreme hazards, such as fumigating, mixing insecticides and fungicides indoors, greenhouse spraying, handling anhydrous ammonia in bulk, and for other operations in which normal respirators do not give adequate protection. Five styles of full-face masks have variety of canister contents to protect against specific fumigants, commonly used on farms.

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STATE NEWS

The Business Side of Fruit Growing

WASHINGTON, D.C.

New Chemicals Needed

INTENSIVE research to develop new agricultural chemicals that do not leave harmful residues was recommended by USDA's Deciduous Fruit and Tree Nut Research and Marketing Advisory Committee at its annual meeting held recently in Washington, D. C.

The committee also cited the need for increased research to develop new methods and equipment to improve mechanization of orchard work. More basic study to determine the composition and physical structure of fruits and fruit products was suggested.

In the marketing research area, the committee recommended development of practical measures of fruit maturity as a guide to proper inspection, grading, handling, and shipping.

The committee is composed of national leaders from the deciduous fruit and tree nut industries. Their recommendations are for research to be undertaken by USDA.

New officers of the committee are Max R. Smith, manager, Millburg Growers Exchange, Inc., Benton Harbor, Mich., chairman, and George A. Chick, Maine Deputy Commissioner of Agriculture, Augusta, vice-chairman.

Other committee members who attended the meeting are: Robert L. Berner, Robert L. Berner Co., Chicago, Ill.; Delbert

A GOLDEN BELL RINGS

"WHAT is the evidence?" This question rings a golden bell in my memory. Woe to the student in A. J. Heinicke's Pomology 101 class who substituted opinion for fact in his answer. The good professor would interrupt with a dry comment and the offender would forever resolve to persevere his studies more conscientiously. I should know. I shared this resolve with many others.

Now word comes that Arthur John Heinicke is retiring. He was an excellent teacher. Besides building in his students a high regard for the facts, he organized his material in such a way that it was pretty hard not to get the point. "Pruning is a dwarfing process," he taught us. After he lectured on pruning and compellingly marshalled his evidence, even the slowest person in the class would forever remember why pruning is a dwarfing process. It was etched in his memory.

He had an air of quiet confidence. His classes had a certain spirit not often present in others. It was all business from beginning to end and undivided attention was a necessity. His somewhat gruff manner concealed a friendly attitude. Friendliness not in the sense of hale, hearty, and well met. But friendly in that his office was always open, his advice and encouragement always available.



Dr. Heinicke was given a wonderful tribute at the recent meeting of New York State Horticultural Society. For 46 years he was a professor and head of pomology at Cornell. For 18 of these years he was also director of New York Experiment Station at Geneva. He retires from his official duties July 1 and will do scientific writing and work in pomology at Cornell.

The tribute pointed out the notable advances in horticulture that resulted from his work, namely in fruit setting, food synthesis and accumulation, nutrition, and soil management. The citation was king size for a king-size man.—R. T. Meister, Editor.

V. Birdseye, almond producer, Chico, Calif.; William H. Booth, peach producer, Commerce, Ga.

G. C. Crossland, general manager, Blue Star Growers, Inc., Cashmere, Wash.; Paul A. Dobson, president, Diamond Walnut Growers, Inc., Exeter, Calif.; Ralph E. Dugdale, Dugdale & Sons, nut processors, Cornelius, Ore.

Curt E. Eckert, Eckert Orchard Association, Belleville, Ill.; Fred Matson, J. G. Maples Co., Martinsburg, W. Va.; Grant Merrill, Grant Merrill Orchards,

Red Bluff, Calif.; Carl Smith, assistant produce director, Gerber Products Co., Fremont, Mich.; and Olin W. Thompson, manager, Gold Kist Pecan Growers, Atlanta, Ga.

ILLINOIS

Subsidiary Named

THE farm commodity marketing and bargaining subsidiary of American Farm Bureau Federation announced last fall has been incorporated as an affiliate of AFBF under the name: American Agricultural Marketing Association.

WASHINGTON

Dwarf Trees Popular

ANOTEWORTHY trend in the Lake Chelan apple growing area is the increased acceptance of dwarf trees. Substantial plantings are being planned by several growers.

Randy Cooper is setting out 8 acres of Golden Delicious on Malling II and Irvin Smith, 1 acre of Goldens on IX. A spring planting of several acres on XII and II is planned by Louis Sorenson.

Interplants of XII and II are doing well in Dwight Milne's 13-acre orchard.

In Yakima County there is a trend

AMERICAN FRUIT GROWER



AT THE APPLE JUICE FOUNTAIN

Receiving congratulations at 100th annual meeting of State Horticultural Association of Pennsylvania is new president, John Mengel, Leesport, second from left. Also pictured, left to right, are John Philips, North East, retiring president; Paul H. Shepard, Mountain Grove, Mo., president of American Pomological Society which met jointly with SHAP; and George Kessler, East Lansing, Mich., APS secretary. Apple juice fountain is shown in background.



FROM BLOSSOM...



...TO HARVEST

Guthion alone ... controls all major apple pests ... all season long

"Better finish" ... "higher yield" ... "easiest, most effective control ever." Those are actual reports from apple growers of this area who used GUTHION last season.

They report that GUTHION *alone* controlled every major apple insect in their orchards—including aphids and mites. They proved that all-season use of GUTHION alone provides equal or better control than any combination of insecticides formerly required—and at no extra cost!

Harvest a higher profit apple crop from your orchards this year by using GUTHION through the entire season. A regular, season-long schedule will provide better protection between sprays, too, for GUTHION stays on the job from one cover spray to the next.

Simplify *your* spray schedule and get top quality fruit this season. The sure, economical way to do that is to order GUTHION from your farm supply dealer today. It works!

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*is this the
"new look"
in fruit harvesting?*

Each year as harvest labor becomes harder to hire and more costly, mechanization becomes more attractive. The Gould Hydraulic Boom Shaker gets the job done while saving fruit damage and labor costs. Last year, sour cherries were successfully harvested in this way. More soft fruits soon will be added to the growing list of mechanically harvested fruits and nuts (walnuts, almonds, filberts, pecans, olives, prunes, sour cherries). Most likely candidates . . . peaches, apricots, apples . . . believe it or not! Before you say it won't happen, write for the facts.

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in semi-dwarf plantings. Malling VII root is the most popular, with some interest in MM 106 rooted cuttings.
—W. A. Luce.

OREGON

Orchardist of the Year

HOOD RIVER'S orchardist of the year award for 1959 was won by Bill Hazeltine, Parkdale orchardist and president of Oregon State Horticultural Society.

Hazeltine owns and manages a 60-acre ranch of which 50 acres are in orchard. His major varieties are Red Delicious and Golden Delicious apples and Bartlett pears. He is noted for his outstanding Golden Delicious apples.

WALLINGFORD ELECTED PRESIDENT

New president of Maine Pomological Society is Otto H. Wallingford, Auburn (right). Other officers elected during 19th annual Trades Show at Lewiston were F. J. McDonald, Monmouth, first vice-president; Benjamin Chick, Mon-

mouth, second vice-president; Arch D. Leavitt, Turner, treasurer; Howard C. Berry, Livermore Falls, secretary.



NEW YORK

Crisp-aire Apples

NEW name for apples from controlled atmosphere storages of members of New York and New England Apple Institute is Crisp-aire.

According to L. W. Marvin, institute manager, extensive advertising will tell the public about the Crisp-aire name and what controlled atmosphere does to make these apples the crispest and longest-lived on the market.

A sharp increase in the number of Red Delicious apple trees planted since 1950 is indicated in a study made at New York State College of Agriculture, Cornell University, Ithaca.

The figures, compiled by Prof. Bennett A. Dominick from data gathered by Agricultural Crop Reporting Service in Albany, indicate that one out of every five apple trees planted in New York during the last 10 years is of the Red Delicious variety.

First effects of the Red Delicious increase are expected soon as the trees mature enough for commercial production.

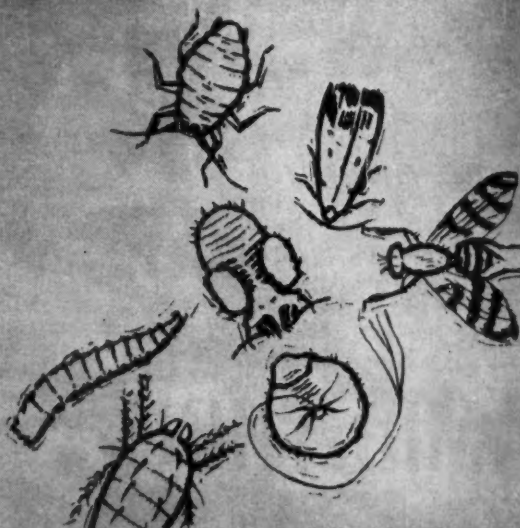
Cornell men see two possible dangers in the switch toward Red

AMERICAN FRUIT GROWER



Delicious. One is the threat of competition from areas in which Red Delicious is better adapted and

**controls
most
insects**



DIAZINON

INSECTICIDES

**on most
fruit
crops**



- broad spectrum action
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*hand-thinning
is old-fashioned!
use*



AMID-THIN

(contains naphthylacetamide)

**chemically thins
fruit, eliminates
expensive hand
thinning!**

**improved size and
quality of fruit!**

**can be used early
without injury to
foliage or fruit!**

You get better, more consistent thinning when you use Amid-Thin! And that means you eliminate hand-thinning—one of the most expensive and practically impossible chores in orchard operation today.

Used safely, *without injury to foliage or fruit*, Amid-Thin helps induce shoot growth, larger fruit because of leaf-fruit ratio more favorable to fruit. Use of Amid-Thin has produced increased bloom in "off" years. This aid in breaking biennial bearing helps uniform annual production. And its wide range of safety at concentrations needed for thinning reduces chance of overthinning as compared to other commercial chemicals.

Commercial orchards have proved Amid-Thin's economy and effectiveness over the past five years. For bigger, better, more saleable fruit—try Amid-Thin!



AMID-THIN

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Delicious. One is the threat of competition from areas in which Red Delicious is better adapted and yields per acre are higher.

The second is the danger of severe weather. The horticulturists say a series of short, cool summers would cut yields sharply below those of 1955 and 1959, two encouraging years for fruit growers.

GEORGIA

All Set to Produce

PEACH orchards in the middle Georgia area have had more than the 1000 hours of chill required to put the trees in good shape for production.

A "chilling hour" is recorded when temperature is 45° F. or lower for 60 minutes. Without proper chilling during the winter, peach trees do not blossom and leaf out normally.

Georgia's average peach crop amounts to about \$10 million annually with the middle Georgia orchards producing about 70% of the total.

OHIO

Merchandising Stressed

THE 113th annual meeting of Ohio State Horticultural Society in Columbus drew an attendance of approximately 400.

Merchandising problems of Buckeye state fruit growers received special emphasis in talks given by marketing specialists from Ohio State University, Ohio Farm Bureau, and grower members of the society who have had outstanding success with their marketing programs.

A panel discussion, *What Makes for Good Merchandising of Fruit*, stressed different methods of marketing fruit.

Officers elected during the meeting were Paul Thornburg, Ashland, president; C. W. Ellenwood, Wooster, first vice-president and secretary; H. J. Kiefaber, Dayton, second vice-president; and I. P. Lewis, New Waterford, treasurer.

CALIFORNIA

Favor Marketing Order

FREESTONE peach growers throughout California are in favor of a proposed state marketing order for promotion of processed freestone peaches. Recently a statewide grower committee concluded a series of district meetings in freestone growing areas which were held to sample grower opinion prior to drawing up the proposed order.

Generally growers favor an order which would include research and promotion, but they do not favor a

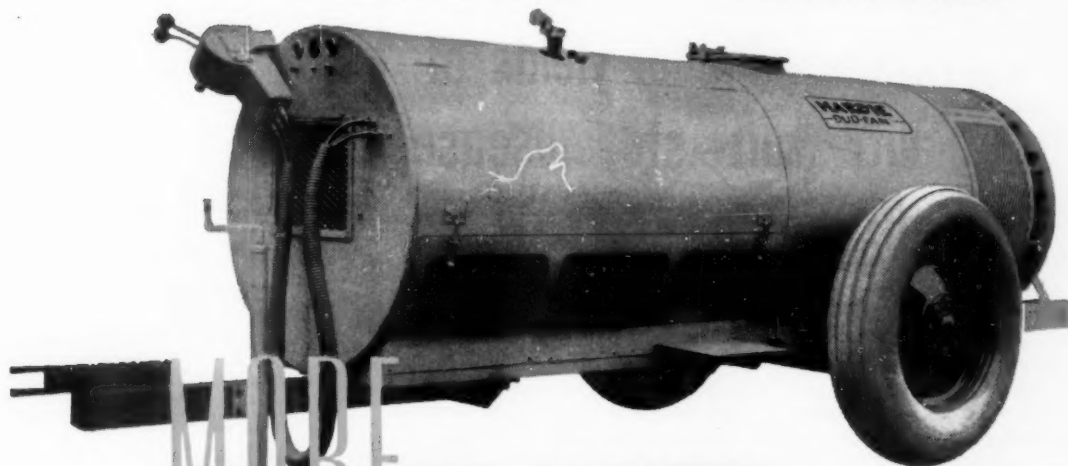
AMERICAN FRUIT GROWER



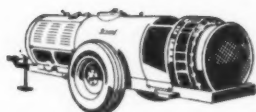
provision for third-party grading of the fruit. Many growers feel a quality control program should be developed through research.

FROM **HARDIE** THE **NEW** COMPACT-RUGGED PERFORMANCE **DF-480**

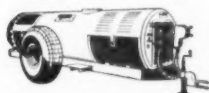
- NEW ADJUSTABLE AIR GUIDE VANES AND INDIVIDUAL NOZZLE SHUT OFF PROVIDE SPRAY PATTERNS TO MEET MOST EXACTING ORCHARD REQUIREMENTS
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- GROUND CLEARANCE 8½" to 21½"
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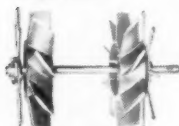
FOR YOUR MONEY...



Hardie DF-800, greatest and most advanced sprayer ever built. Over 97,500 cubic feet of air per minute.



Hardie DF-520 includes the same advanced features as the DF-800, with over 62,500 cubic feet of air per minute.



Hardie patented two-fan assembly, std. equipment on all sprayers. Delivers 30% more air volume than conventional axial flow fan.



Dependable, proven aircraft type remote control, simple, heavy duty, controls throttle and spray delivery on one or both sides.

- TWO CAST ALUMINUM AXIAL FLOW FANS
- MORE THAN 40,000 CUBIC FEET OF AIR
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- MORE THAN 48" OF WORKING FAN SURFACE
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- MORE FEATURES • EASIER OPERATION AT NO EXTRA COST

Here's just the sprayer you've been looking for—The Brand New—Compact—Rugged—HARDIE "Duo-Fan" DF-480.

This new sprayer was designed with the small grower in mind. The new Hardie DF-480 excels all others in performance, mobility and economy, and is built to last for many years of continuous operation under the most difficult conditions.

The new Hardie DF-480 is available in 300 and 400 gallon tank sizes (Hardie-Klad Stainless Steel—optional extra). Also available with the popular Hardie High Pressure Pump or the new improved centrifugal pump (80 GPM—150 PSI).

If you want additional information or an actual demonstration in your own orchard, simply fill in the coupon below and mail today.

HARDIE PEST CONTROL EQUIPMENT SOLD AND SERVICED		THE HARDIE MANUFACTURING CO., INC., DEPT. AF WILKES-BARRE, PENNSYLVANIA	
AGRICULTURAL SPRAYERS • HIGH PRESSURE PUMPS • DUSTERS		Please send me full details of the Hardie "Duo-Fan" DF-480.	
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The remarkably fine finish of these peaches resulted from using "Thylate". On all varieties of peaches, apples and strawberries "Thylate" helps produce more premium-quality fruit.

To produce higher yields of top-quality fruit—stop diseases with Du Pont THYLATE® thiram fungicide

PEACHES—Du Pont "Thylate" thiram fungicide has proven to be one of the safest and most effective chemicals yet developed for controlling several important peach diseases. Even under the severest conditions it gives peaches excellent protection against brown rot in both blossom blight and fruit stages, and against Rhizopus rot and scab as well. It is completely safe to foliage and leaves fruit with a fine finish. Disease protection with "Thylate" will bring you both bigger yields and a higher percentage of premium-quality fruit.

APPLES—"Thylate" controls ten major diseases, more than any other fungicide. It leaves no objectionable residue—won't cause russetting, even on Golden Delicious.

STRAWBERRIES—"Thylate" provides superior protection against gray mold all season—from early blossom stage to ripening of fruit—won't harm foliage either.

MIXED BLOCKS—Save both time and labor this year by protecting mixed blocks of apples and peaches with one versatile fungicide—Du Pont "Thylate".

Contact your dealer soon for a supply of Du Pont fungicides. Be sure, also, to ask him about Du Pont "Parzate" zineb fungicide for excellent protection against late apple diseases, and Du Pont "Fermate" ferbam fungicide for dependable disease control on a wide variety of fruit crops.

On all chemicals, always follow label instructions and warnings carefully.



BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

THYLATE® · FERIMATE® · PARZATE®
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provision for third-party grading of the fruit. Many growers feel a quality control program should be developed through research.

California Freestone Peach Association reports that it may be possible to get a state marketing order covering research and sales promotion into effect for this year's crop. Then, through the research program, they hope to establish basic grade standards which can be used throughout the processing industry.

These grade standards would be administered by a third-party grading system; however, it is not anticipated that the third-party grade restrictions will go into effect for at least one and possibly two years.

California Prune Advisory Board has allocated \$528,000 for sales promotion and consumer education.

According to R. W. Jewell, board manager, the funds will be divided as follows: \$317,000 for domestic advertising; \$71,000 for merchandising and promotion; \$90,000 for advertising in export markets; and \$50,000 for public relations and consumer education.

Calendar of Coming Meetings & Exhibits

Apr. 14-15—2nd Western Conference on Post Harvest Physiology & Biochemistry, Univ. of Calif., Davis.—Public Service office, Univ. of Calif., Davis.

Apr. 24—Ohio Nut Growers Association annual meeting, Kingwood Center, Mansfield.—E. M. Shelton, Sec'y-Treas., 1468 W. Clifton Blvd., Lakewood.

Apr. 28-30—Shenandoah Apple Blossom Festival, Winchester, Va.

Apr. 28-30—Washington State Apple Blossom Festival, Wenatchee.—Mrs. Ginny Hopkins, Publicity Director, 128 S. Wenatchee Ave., Wenatchee.

May 24-25—National Produce Executives' Conference, Ambassador East Hotel, Chicago, Ill.

May 29—Indiana Nut Growers Annual Meeting, Indiana Nut Nursery, Rockport.—Mrs. Ralph Andrews, Sec'y-Treas., Marion.

May 29-June 4—Caribbean Region American Society for Horticultural Science annual meeting, Rio Piedras, Puerto Rico.—E. H. Casseres, Sec'y-Treas., Londres 40, Mexico 6, D. F.

June 3—Almond Day, University of California, Davis.

June 4—Walnut Day, University of California, Davis.

June 16—Small Fruits Day, Ohio Agricultural Experiment Station, Wooster.

June 23-25—National Apple Institute annual meeting, George Washington Hotel, Winchester, Va.—C. B. Lewis, Chairman of the Board, NAI, Washington Bldg., Washington 5, D. C.

July 12-13—Texas Pecan Growers Association annual meeting, Brownwood.—F. R. Brison, Sec'y, College Station.

July 25-27—International Apple Association annual convention, Hotel Fontainebleau, Miami Beach, Fla.—Fred S. Johnston, General Chairman, Seald-Sweet Sales, Inc., 110 Oak Ave., Tampa 1, Fla.

Aug. 2-3—Ohio Pesticide Institute, Ohio Agricultural Experiment Station, Wooster.

Aug. 4—Orchard Day, Ohio Agricultural Experiment Station, Wooster.

Aug. 26—Maine Blueberry Festival, Union Fairgrounds, Union.

Sept. 11-14—Produce Packaging Association annual convention and exposition, Americana Hotel, Miami Beach, Fla.—Robert L. Carey, Exec. Sec'y, P. O. Box 29, Newark, Del.

Sept. 27-29—Florida Fruit & Vegetable Association annual convention, Hotel Fontainebleau, Miami Beach.—J. Abney Cox, General Convention Chairman, Princeton.

Oct. 13-22—National Apple Week.—Norm Eschmeyer, Manager, National Apple Week Association, 1302—18th St., N.W., Washington 6, D.C.



Ezra Jacob Kraus

DEATH TAKES NOTED HORTICULTURIST

ONE of the world's leading plant scientists and horticulturists, Dr. Ezra Jacob Kraus, died February 28 in Corvallis, Ore., at the age of 74.

The brilliant and kindly scientist had been honored by almost every horticultural and botanical society in America for research accomplishments. These included discovery of the basic carbohydrate-nitrogen growth ratio principle in plants; the development of 2,4-D as a weed spray; pioneer research on the use of growth regulators; and development of new and better varieties of ornamental plants.

In January, 1948, AMERICAN FRUIT GROWER in a special feature article on *America's Greatest Horticulturists* honored Dr. Kraus along with Liberty Hyde Bailey and William Henry Chandler.

Dr. Kraus had a tremendous range of interests and a tremendous capacity for work and original thinking. Still, he had the "common touch" and was as much at home in a garden club meeting as in a scientific conference. His quiet encouragement and vast knowledge were inspirations to his students at the three universities—Oregon Agricultural College, University of Wisconsin, University of Chicago—where he taught.—*Sam Bailey, Oregon State College, Corvallis.*

IT'S PLUM GOOD

TASTE-TESTERS at University of Idaho have called a new sherbet made from Idaho blue plums "plum" good.

Several types of plum ice cream and plum sherbet were developed by the university's dairy science department as one approach to the problem of finding new market outlets for Idaho's plum crop.

Both fresh and cooked plums have been used in making the sherbet. So far, opinion is about equally divided between the two types.

How fmc gives you more dollar value in fresh fruit packing equipment

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FMC engineers have the experience and know-how gained from years of designing packing lines for every type of produce handling. This service is free. There is no cost or obligation.



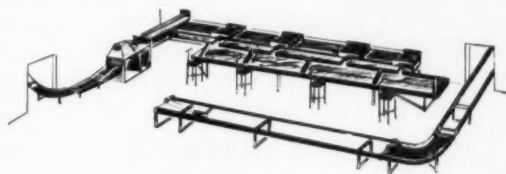
Dollar value is more than a thought. It's a cold hard fact when you apply it to FMC fresh fruit packing equipment. To some, dollar value means more labor-saving features. FMC machines have them—many with exclusive features found on no other machine. To others, dollar value means years of service. FMC machines do a better job all the time. No compromises. No make-shift arrangements. The machines are built to do a job, and they do it right. Plan now to deal with FMC. See why we say you get more in every way when you deal with FMC.

FMC GIVES YOU — DEPENDABLE, CLOSE-BY SERVICE

A nearby experienced FMC dealer is ready to assist you in every way. He understands your local processing problems. He has helpful information on the latest new machines for your needs.

FMC GIVES YOU — MODERN MACHINES FROM ONE SURE SOURCE

From the instant your produce is placed on the feed belt until its packed, FMC equipment provides the ultimate in fast, gentle handling. Compact design, different grading combinations, are but a few of the many features of this equipment.



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Russel Senn



Sam Revis

HOW ORTHOCIDE[®] IMPROVED



HIGHER YIELD, HIGHER QUALITY—

"We have been on the full ORTHO program for two years now and have increased tree vigor which has resulted in higher yields and higher quality fruit," reports Russel Senn of Old Hickory Orchards, La Crescent, Minn. "We are running 90% or better fancy or extra fancy fruit. I also have noticed a much heavier bud set on the trees the past two years."



TOP MARKET PRICES—

Peach grower Sam Revis of Hope, Ark. (pictured left with ORTHO Fieldman Bill Grover) reports, "In spite of the largest peach crop we've ever had in this area, I sold some of my ORTHOCIDE sprayed peaches for as high as \$5 a bushel — none less than \$2.50 — while peaches were selling all around me for \$1. So it's easy to see why I'm so sold on the ORTHO program and the follow-through of ORTHO field service."

ORTHOCIDE can bring you top market prices

This outstanding fungicide, used on growing fruit, has improved the color, finish and keeping quality of fruit for leading growers everywhere. Ask your local ORTHO Fieldman how ORTHOCIDE (captan) in an ORTHO program can bring you top market prices, too!

Scientifically trained Fieldmen located in all the Nation's leading fruit growing areas:

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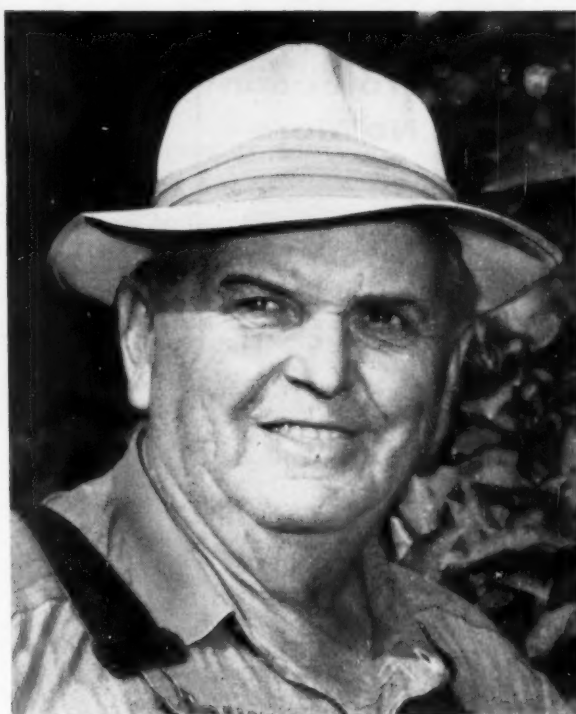
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Salt Lake City, Utah
Des Moines, Iowa

Dallas, Texas
Memphis, Tennessee
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Elmore Fraleigh



Lutz Ledford

YIELDS, INCREASED SALES:



LOW COST, HIGH RETURN — "ORTHO-CIDE is not only the best fungicide on the market, but it is also the lowest in cost when you figure out your harvest returns," says Mr. Elmore Fraleigh of Red Hook, N.Y. (pictured left, with ORTHO Fieldman Bill Evans). Before using the ORTHOCIDE program, 40% of Mr. Fraleigh's Stayman variety were cracking, but now he finds that very few are cracked. "I find that ORTHOCIDE is an excellent preventative with a very good kick-back action. I've never worried about the finish or scab on my apples since switching to the ORTHOCIDE program," says Mr. Fraleigh.



CONSISTENTLY HIGH YIELDS — "Ever since I started using ORTHOCIDE exclusively, my scab control has been 99% effective and the finish of my apples has been superb," says Mr. Lutz Ledford of Shelby, N.C. (pictured left, with ORTHO Fieldman Horace Berry.) "The year after I got a tremendous yield I had another above-average yield, against most people's predictions. And I attribute this consistent crop success in part to ORTHOCIDE," adds Mr. Ledford.



S.M. REG. U.S. PAT. OFF. ORTHOCIDE, ORTHO. ON ALL CHEMICALS. READ DIRECTIONS AND CAUTIONS BEFORE USE.

California Spray-Chemical Corp., A subsidiary of California Chemical Co.

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Costs No More**

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RESPIRATOR**



WHEN SPRAYING with poisonous insecticides don't be "half safe"! Protect yourself and workers with the finest equipment at no extra cost. America's leading insecticide makers use this respirator for 3-in-1 protection against dangerous gases, fumes and dusts. Comfortable to wear, easy to breathe thru. Cartridges are replaceable and contain: (1) Highest grade activated charcoal for filtering out hazardous vapors and (2) Built-in fibrous filter for stopping entry of dust, mist and spray.

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RESPIRATOR
complete with filter cartridges

\$6.20

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Be Safe For Sure . . .

With AO SURE-GUARD Respirators

Canners Adopt SIX-POINT PROGRAM

Aim of program is to help growers deliver fruits and vegetables free of uncertified pesticides or within legal pesticide tolerances

By C. H. MAHONEY

*Director, Raw Products Research Bureau
National Canners Association, Washington, D. C.*

NATIONAL Canners Association at its annual convention in Miami Beach held three executive sessions to discuss ways and means of setting up a "protective screen" against chemical contamination of raw products. This would be maintained by the canner, with his growers' co-operation, to insure delivery of a wholesome food product to the canning plant.

The second phase of this protective screening would be control of processing in hermetically sealed containers (can or glass) to insure that this wholesomeness would be delivered to the consumer intact. The association adopted the following six policy statements concerning grower use of pesticide chemicals:

1) Canners processing crops that have been treated, or produced on land that has been treated, with any pesticide chemical—including insecticides, fungicides, rodenticides, herbicides, fumigants, defoliants, nematocides, desiccants, and plant growth regulators—should be absolutely certain that such chemical has been accepted for registration by USDA under the Federal Insecticide, Fungicide, and Rodenticide Act.

2) Each canner should prepare and supply his growers with a list of pesticide chemicals from those accepted for registration under the federal act, which may be used on crops which he processes. It should be the responsibility of canners to see that their growers use these registered pesticide chemicals in accordance with the recommendations of USDA, state agricultural experiment stations, and the extension service.

3) Each canner should make sufficient periodic contacts with his growers to assure himself that if these pesticide chemicals are used, they are used properly.

4) Canners should maintain detailed records showing how pesticide chemicals have been used in the production of crops for processing.

5) Each canner purchasing crops under contract should obtain written

statements from his growers that they will use only registered pesticide chemicals, in accordance with recommended procedures. Canners purchasing canning crops on the open market should obtain written statements from the growers that they used only registered pesticide chemicals, in accordance with recommended procedures.

6) Canners should participate in the development of an educational program on the proper use of pesticide chemicals in co-operation with their state agricultural experiment station, the extension service, producer organizations, and other interested groups.

NCA Raw Products Research Bureau has sent to all fruit and vegetable canners a special publication of National Agricultural Chemicals Association listing official FDA tolerances on pesticides. This special issue by NACA has been checked thoroughly by FDA and is up-to-date as of February 1, 1960. Pesticides which have been registered for use on specific fruit and vegetable crops are listed with their tolerances.

The Raw Products Research Bureau has also compiled a list of herbicides, nematocides, soil fumigants, and growth regulators which have been registered for use by USDA, most of them on a non-residue basis. This list is up-to-date as of February 5, 1960. NCA is not recommending these herbicides, nematocides, soil fumigants, and growth regulators, but the list includes all of those which have been registered for use on fruits and vegetables used for canning. Any herbicide, nematocide, soil fumigant, and growth regulator not on this list is illegal.

Canners were told to check very carefully with their experiment station and extension service personnel to determine which of these chemicals are recommended for use on canning crops. Canners were warned to be sure that the chemicals have been certified as useful for this purpose.

Experiment station and extension service personnel in a number of states have already prepared a specific list of recommended pesticides to be used on canning crops, and these lists have been carefully checked by research personnel and

AMERICAN FRUIT GROWER

canners alike. NCA, in a specially designed pesticide newsletter, will report current information to all canners on any changes made in

Growers Everywhere SAVE with GLYODIN

Wherever you grow fruit, Glyodin gives outstanding control of scab and other apple diseases at low, low cost. Check the savings for your area—based on state recommendations and local costs for Glyodin and the alternate recommendation for high-quality, fine-finish fruit. Costs are based on 30 trees per acre using 12 gallons of dilute spray per tree.



On the full Michigan schedule, Glyodin protects your fruit at tremendous savings. You save \$8.46 in pre-bloom, \$5.07 during bloom and \$6.30 in cover sprays. Money saved on your spray bill is clear profit; how many extra boxes of apples would you have to pack to clear an extra \$20.00 per acre?



Using the New York recommendations, Glyodin can save you \$8.32 per acre in early sprays, \$11.38 in covers. And this schedule includes two shots of mercury for extra-long, back action through extended rainy periods; a complete schedule that puts money in your pocket.



The new 1960 Virginia recommendations still show Glyodin the leading money-saver for "Fresh Fruit" grade apples. For the typically large grower this could mean a saving of over \$2,500.00 in one season. And if you must go back to lead arsenate for the hard-to-kill red-banded leaf roller, the Glyodin-ferbam combination is the best way to cut costs in a tough spray season.

Another way to cut costs is to take advantage of Glyodin's added benefits of mite suppression and spreader-sticker action. Authoritative data from your state experiment stations show that Glyodin used on a full schedule suppresses mites and tends to increase the effectiveness of mite control materials. Why pay more for a fungicide that adds to your mite problems.

For detailed figures on the costs for your area and new schedule information see your Glyodin dealer or write to us at the address below.

For a truly profitable schedule follow your state recommendations and reduce costs with a quality fungicide. **Order your Glyodin now.**

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APRIL, 1960

29



NEW! MORE EFFECTIVE CONTROL OF RED BANDED LEAF ROLLERS

with **VELSICOL**
ENDRIN



ENDRIN . . . a new and more effective chlorinated hydrocarbon insecticide, will give you effective control of red banded leaf rollers. It even kills those that have developed resistance to certain other chemicals. It won't harm fruit or foliage, and can be applied with standard sprayers. It's economical, too, because the wettable powder spray you use for leaf rollers will also control plum curculios. The first application must be made at petal fall, so order Endrin now. A second application is suggested as a first cover or pre-cover spray. Consult the spray schedule for your state for specific directions. Be sure you get delivery in time to protect your production, trees, and profits this season!

**MUST BE APPLIED AT PETAL FALL!
ORDER NOW FROM YOUR CHEMICAL
SUPPLIER!**

VELSICOL
ENDRIN

**KILLS BOTH
RED BANDED
LEAF ROLLERS
AND PLUM
CURCULIOS!**



VELSICOL CHEMICAL CORPORATION
330 East Grand Ave., Chicago 11, Illinois

AFG-40

Gentlemen: Please send me folder—"New Aid for Apple Growers."

Name _____

Address _____

City _____ State _____

canners alike. NCA, in a specially designed pesticide newsletter, will report current information to all canners on any changes made in tolerances or on new chemicals registered for use by USDA and FDA.

There are a number of chemicals, mostly those in the growth-regulator class, which have not as yet been certified for use and many of these have been in use for many years. The reason for this situation is that

THINNING AND STICK-ON SPRAYS CAN BE USED IN 1960

IN the nick of time, on March 5, an extension was granted by Food and Drug Administration permitting the use of growth regulators as thinning or stop-drop sprays this year.

Spearheaded by National Apple Institute, the campaign for extension was joined by other industry groups that worked hard to achieve the extension before bloom-time in the nation's orchards.

The official extension makes possible the use of naphthaleneacetamide and naphthaleneacetic acid as thinning sprays this spring.

It also makes possible the use of 2,4,5-TA and 2,4,5-TP to control fruit drop.

A similar extension is expected shortly for spreader materials such as Tween-20.

Since naphthaleneacetic acid as a stick-on spray has an official-approved tolerance of 1 part per million, it can be used according to directions on the label for apples, pears, and quinces.

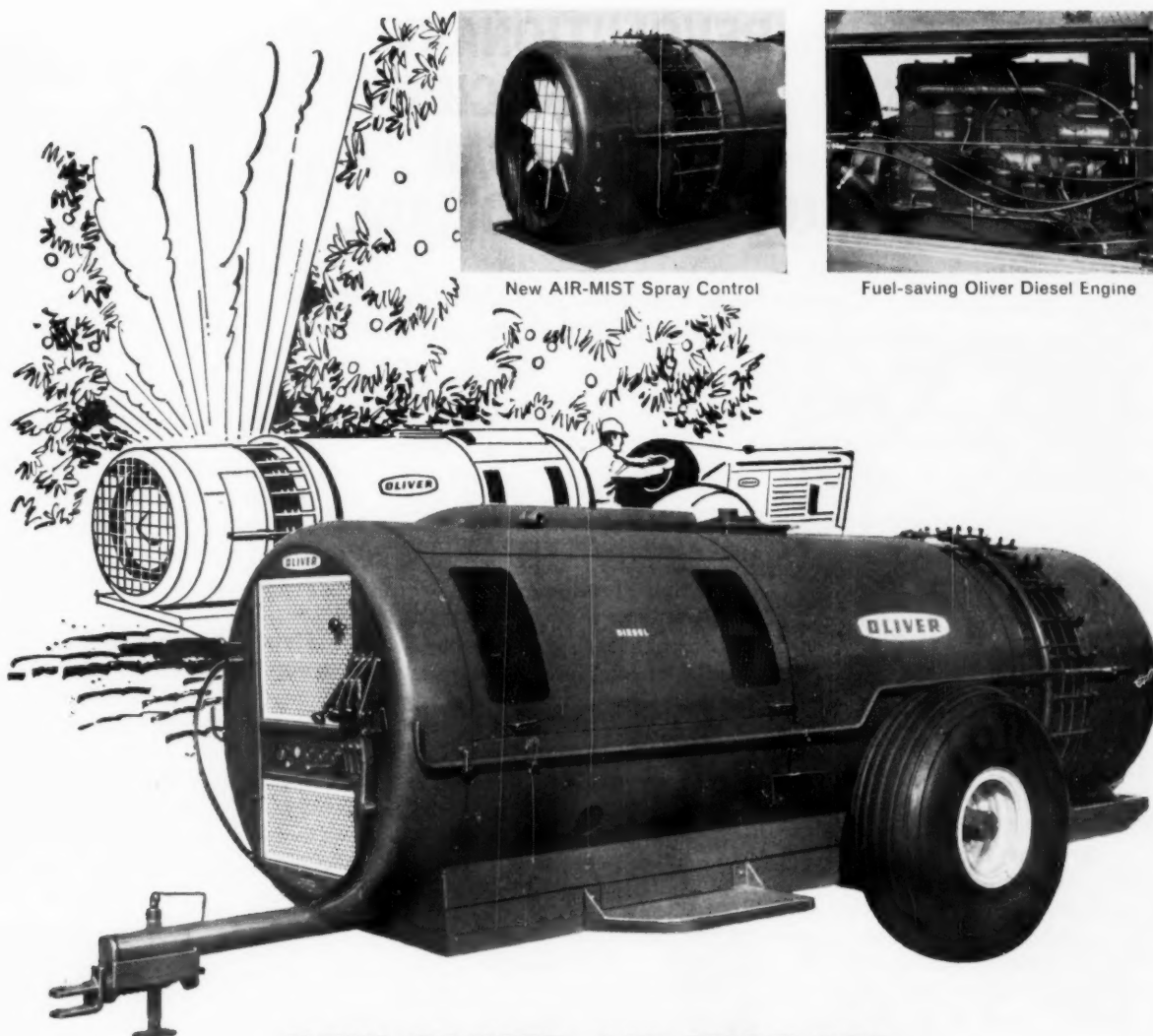
For peach thinning, a formulation of naphthylphthalamic acid (NPA) recently received official clearance for grower use as directed on the label. The product is Nip-A-Thin (Chemley Products Co.), a powder formulation of NPA.

Approval of the dinitros as a thinning spray on blooms of apples, peaches, and other stone fruits is expected shortly. Application for extension of their use was filed by Northwest Horticultural Council and Standard Agricultural Chemicals, Inc.

prior to August, 1959, registration on these growth regulators was not required under the pesticide act. Some of these may be registered for use or may be given an extension so that they can be used in 1960. When these permissions are granted, this information will be sent to all canners in this special pesticide newsletter.

It is believed, therefore, that the canners, with their field staff, in co-operation with the extension agents in each of the states and the full co-operation of the grower, will be able to prevent any contamination of raw products with illegal chemicals. Thus they will be able to insure the public that the food which it purchases in hermetically sealed containers is safe, healthful, food. **THE END.**

AMERICAN FRUIT GROWER



NEW OLIVER AIR-MIST 505

New spray control plus big diesel economy

FIELD PERFORMANCE

27 gallons—operates tractor and sprayer

1850 r.p.m.—efficient fan speed

68,000 cu. ft.—air volume per minute

25,000 gallons—spray material per day

The new Oliver 505 sets a new standard of performance for orchard and grove operators. Imagine beating the certified reports of custom sprayers who have acclaimed the predecessor model. Now you can do better than this—a day's operation on 27 gallons of diesel fuel for both tractor and sprayer, less than \$5 for fuel...application of 25,000 gallons of dilute or concentrate spray material in one day...complete leaf and limb coverage with 68,000 cubic feet of mist-filled air per minute from a slow-speed, easy-maintenance, 1850 r.p.m. fan.

Ask your Oliver dealer for a demonstration of the new 505 Air-Mist sprayer in your own orchard or grove. At the same time, try out a diesel 770 orchard tractor and measure the fuel you'll save.



THE OLIVER CORPORATION
400 West Madison Street, Chicago 6, Illinois

GO BIGGER...GO BETTER — GET OLIVER TEAMED-POWER

REVOLUTIONARY NEW FUNGICIDE FIGHTS SCAB ON AND IN FOLIAGE

*Cyprex 65-W combines four different actions
to provide both protection and eradication*

Cyprex® has shown apple growers that materials which once passed for good scab fungicides were really only fairly good. The unique combination of properties that work together in a Cyprex program provide the kind of control that has leading fruit authorities awarding Cyprex a "best in test" rating in trial after trial.

Cyprex puts a highly effective fungicidal barrier on leaves and fruit that starts working immediately and continues to work because it has...

PROTECTANT PROPERTIES

Spreader-sticker action

Cyprex has built-in spreader-sticker action. Droplets of Cyprex spray spread out to cover the entire leaf surface. While heavy rains will wash off *some* Cyprex, a tough film remains to blanket fruit and foliage until it's time for the next application.

Automatic redistribution

Rain moves *some* Cyprex around by washing and dripping. This means that coverage is extended to those portions of the leaf surface that have outgrown previous protection, as well as to completely new growth that has emerged. Spreader-sticker action keeps this new growth protected.

Local-systemic action

Cyprex also works internally, protects the whole leaf by guarding against scab from the inside out. For example, even if Cyprex

hits only the under surface of a leaf, it is absorbed into — and moves throughout — the entire leaf to kill scab spores that land on either surface.

ERADICANT PROPERTIES

After-infection control (eradicant for kick-back action)

In addition to all the above protectant properties, Cyprex also provides eradicator action. This means Cyprex will penetrate the leaf surface to seek out and destroy growing scab spores. The kick-back action of Cyprex will eradicate scab even when the spray goes on 36 hours after the

beginning of an infection period.

With these four, different actions combined in one fungicide, growers for the first time have a completely flexible scab control material... one that offers both protection and eradication.

How to use Cyprex for protection and eradication

To control apple scab, use ½ lb. of Cyprex 65-W per 100 gallons of water, as needed to maintain scab control from pre-bloom through first cover spray.

If timing is missed and a scab infection period occurs, use ¾ lb.



As you can see a severe scab problem existed in this orchard...

of Cyprex for 36-hour, kick-back action ... ½ lb. for 28-hour kick-back.

All the extra advantages you get with Cyprex give you that margin of control that can make the difference between fair and excellent crops. However, none of them eliminates the need for proper timing, good coverage and a regular schedule.

Cyprex is compatible with most commonly used insecticides and other fungicides. It's non-caustic, low in toxicity. When used as directed, it presents no hazard to orchard workers.

Cyprex can be used in either dilute or concentrated sprays, but concentrating above 5 times is not recommended. Consult your local authority before using Cyprex on the following sensitive varieties: Golden Delicious, Grimes Golden, and Rhode Island Greenings.

Cyprex, a 65% wettable powder, will be available through your regular supplier in 25 and 50-lb. drums. Write for leaflet PE 5061, American Cyanamid Company, Agricultural Division, New York 20, N. Y. ©Cyprex is American Cyanamid Company's trademark for dodine fungicide.



Cyprex is equally effective against primary and secondary scab. Because orchard was protected with Cyprex, the entire crop sold as U.S. No. 1.



...yet, this clean foliage is from an adjoining tree. The reason: a regular Cyprex 65-W schedule.



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APRIL, 1960

CYANAMID
CYPREX 65-W
FUNGICIDE

33

This Nursery Model FITCHBURG CHIPPER Eliminates Brush Hauling



Makes Low Cost Mulch

The next time you haul or burn prunings, remember a Fitchburg Chipper will quickly chip your prunings to eliminate hauling... provide plants and shrubs with a protective moisture cover to guard against summer dry spells, or protect your evergreens from winter drying.

The nursery size Fitchburg Chipper is inexpensive. Yet it converts nursery prunings, waste wood, into a long-lasting, moisture-holding mulch that stays put, won't burn or blow away. It lasts year after year and gradually breaks down into humus.

Model C5 is widely used by orchardists and nurserymen. This model is operated by means of the tractor power take-off. A Fitchburg Chipper gives you "on the spot" convenience on most wheel-type tractors.

The patented spring-activated feed plate, a Fitchburg exclusive, completes the safe, single operator chipping equipment. Each limb is held tightly against a cutting head. With the spring-activated feed plate, you chip brush in various sizes up to its rated capacity with equal effectiveness. There is less shock to the cutting edges, the tough, chrome steel knives stay sharp longer. Chipping goes faster.

FREE CHIPPER FACTS

Write Fitchburg today for free Chipper Facts. Know how a Fitchburg Chipper can save you man-hours and give you low-cost mulch, besides. Tell us how many acres and the type of nursery stock you have, and we will send you the proper literature and prices on models best adapted for your work. The coupon is for your convenience.



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PLEASE SEND facts about Fitchburg Chippers suitable for nurserymen—also prices. We have _____ acres of _____ nursery stock to prune.

We have a _____ Tractor.

Name of Nursery _____

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Peach Growers PLAN MARKET EXPANSION

National Peach Council lays foundation for stepping up its promotional campaign and trade information program in 1960

By R. T. MEISTER

Editor

NATIONAL Peach Council outdid itself in putting on a well-attended, well-run annual convention in Washington, D. C., in February. Peach growers from all the major peach-producing areas got the latest peach news, participated in plans for promotion, and heard an address by Secretary of Agriculture Ezra Taft Benson.

Mr. Benson honored peach growers and the peach industry by delivering the banquet address, a stirring speech calling for an agriculture free from government controls. He commended peach growers for following self-help programs and avoiding the pitfalls of politically legislated substitutes for a free and expanding peach market.

Retiring president Sam Dillon, Hancock, Md., now chairman of NPC, said that the council is estimating an annual budget of \$30,000 within two years' time. Finances have always been a stumbling block for NPC, but steps are underway to provide a more vigorous promotional and trade information program with more financial help from state and regional grower groups.

Much of the load for continued progress rests on the shoulders of the new NPC secretary, Bob Rogers.

Laura Stone, who heads up NPC's home economics and publicity program, told of her efforts to publicize peaches in newspapers, magazines, TV, and radio by supplying recipes, photographs, and news stories. She is endeavoring to put publicity for peaches on a year-round basis.

Crowned peach king at the annual banquet presided over by J. Kenneth Robinson, Winchester, Va., was Vincent Caggiano, Sr., head of the famous fruit growing Caggiano

family which has orchards in New Jersey and South Carolina.

The senior Caggiano, whose five sons were in the audience, told how he started in the peach business a half century ago with 400 trees. Now there are 100,000 trees. He stated his formula for a successful peach operation: 1) pick a good, frost-free site; 2) grow the trees right; 3) pick the peaches when ripe; 4) use a good package.

Crowned queen of peach growers was Mrs. Frank Sleeter, Hill High Orchards, Round Hill, Va. Mrs. Sleeter started in 1942 with a run-down apple orchard and now is a leading Virginia peach grower.

Dr. John Magness, retired head of USDA's fruit research and now editor for American Society of Horticultural Science, told the growers that peaches are not holding their place in the market. He blamed this on the shipment to market of green, under-ripe peaches and declared that better standards are needed for determining picking maturity.

Dr. Magness pointed out that the level of peach production today is similar to what it was in 1940 although in the 20-year interval the population has increased 20%. Since 1940 production of canning clings has increased roughly 10 million bushels while freestone production decreased 10 million bushels. The decrease in fresh sales unquestionably represents a drop in the practice of home canning, he said.

Another reason for the drop, he declared, is the pressure from competitive fruits during the four-month peach season.

He pointed out that the peach season has been altered by variety shifts. Varieties of good quality ripen in any state over a five- to six-week period. This has increased competition for the South and shortened their period of monopoly on the market. It means the southern states are discontinuing the later varieties, and Dr. Magness forecast diminishing production for southern states.

Newly elected president is A. E. Bassham, Wynne, Ark.; first vice-president is Carleton Heritage, Richwood, N. J.; second vice-president, H. Grady Riggins, Woodbury, Ga.; and secretary-treasurer, Robert R. Rogers, Carbondale, Ill.



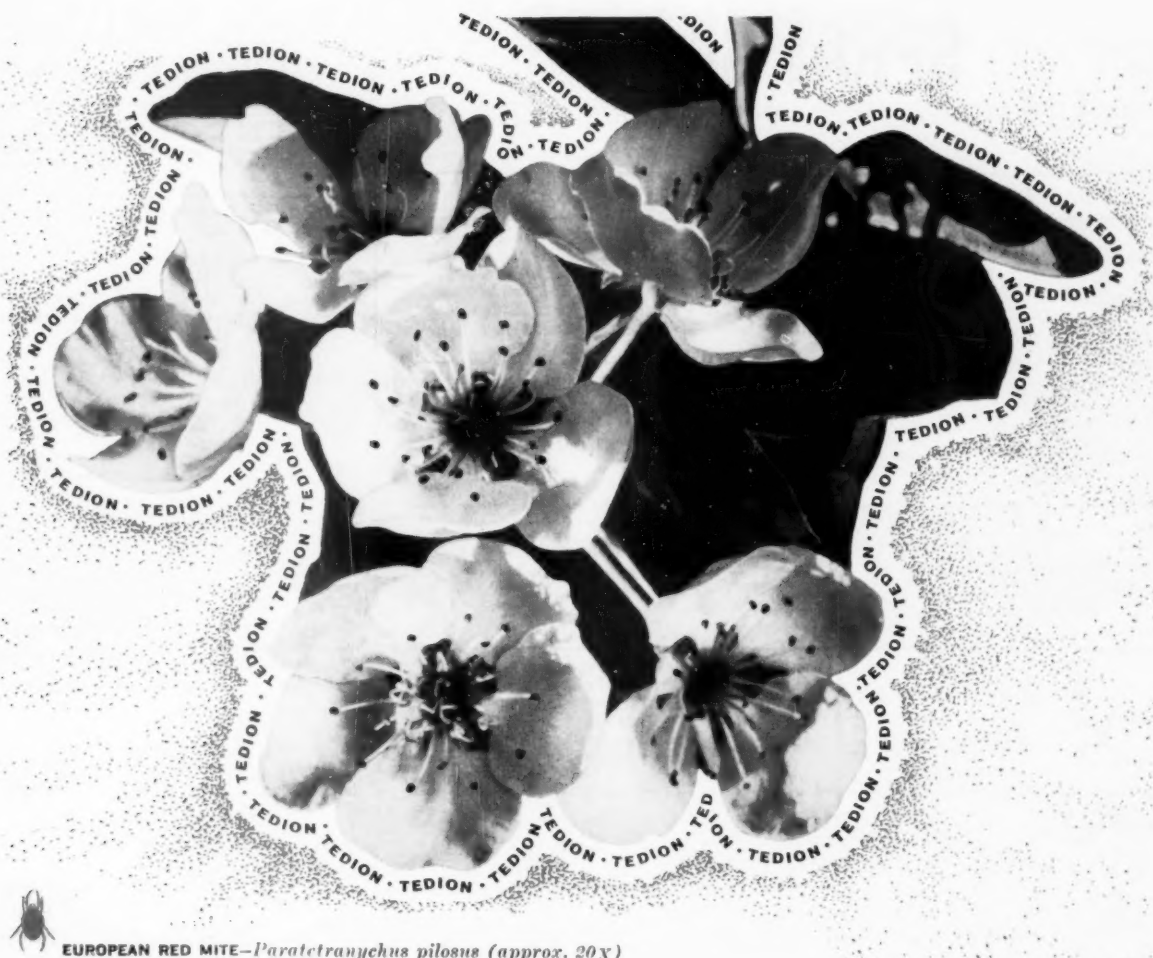
Dillon

New NPC chairman



Bassham

New NPC president



EUROPEAN RED MITE—*Paratetranychus pilosus* (approx. 20X)

Keep your orchard free of **MITES** with **TEDION®** —now approved through petal-fall

A new Selective Miticide for Highly Effective, Long-Lasting, Control of Your Most Important Orchard Pest

This spring you can use the number one weapon—Tedion—more effectively against your number one orchard pest—mites.

Tedion, an exceptionally effective miticide, has just received label registration for use through petal-fall on pears and apples. Previously it could be applied only up to bloom on these crops. Now a total of six fruit crops—these two plus cherries, peaches, plums and prunes, already registered—can be protected from the European red mite by Tedion applications through petal-fall.

Tedion is the answer to the increasing mite problem because it has everything you look for in a new miticide:

- **It's highly effective.** Growers proved Tedion kills mites in all stages—eggs, newly hatched mites, nymphs and adults.
- **It's long lasting.** In field tests, a single Tedion application has provided effective control of mites for over six months.
- **It's selective.** Tedion won't kill beneficial mite predators.
- **It's safe.** Harmless to blooms and foliage—and it's safer to the spray operator; contains no toxic phosphates.

Tedion, a 25 per cent wettable powder, is compatible with other orchard pesticides. Ask your dealer for it today—protected trees produce profits.



Putting Ideas to Work







FOOD MACHINERY AND CHEMICAL CORPORATION

Technical Chemicals Department
Niagara Chemical Division, Middleport, N. Y.

TEDION 25 WETTABLE POWDER IS AVAILABLE FROM
CALIFORNIA SPRAY CHEMICAL CORPORATION • GENERAL CHEMICAL DIVISION • NIAGARA CHEMICAL DIVISION • STAUFFER CHEMICAL COMPANY • AND THEIR DEALERS

SPRAY GUIDE

FOR CONTROLLING APPLE POWDERY MILDEW

WHAT TO LOOK FOR:	WHAT TO DO:
 <i>Infected dormant terminal.</i>	Watch for infected terminals . . . a sure sign that powdery mildew has overwintered in buds and on twigs, and will become active when buds break. Start application of KARATHANE in the pre-pink period.
 <i>Mildewed blossom at advanced pink stage.</i>	Mildewed blossoms at advanced pink stage mean trouble ahead. Start or continue KARATHANE applications at regular intervals.
 <i>Mildew-stunted blossom at full bloom.</i>	KARATHANE WD is harmless to blossoms, as well as buds, fruit and foliage when used as directed. Apply KARATHANE WD every 7 to 14 days.
 <i>Mildew-injured young fruit and spur foliage.</i>	Continue KARATHANE applications until terminal growth is completed to prevent overwintering infections in new buds. Don't take a chance on fruit or foliage injury with sulfur applications. And KARATHANE is compatible with most pesticides.
 <i>Secondary spread by "summer" spores.</i>	During the early summer, this type of diffuse spotted infection may appear on foliage. Keep it under control by spraying with KARATHANE. Your dealer or Rohm & Haas fieldman can recommend an efficient spray schedule.
 <i>Severely mildewed terminals and foliage resulting from uncontrolled primary and secondary infection.</i>	This type of foliage damage and overwintering of mildew can be prevented only by continuing KARATHANE applications through the period of terminal growth. Since mildew fungi are "waxy" and hard to wet, include an efficient spreader-sticker, such as TRITON B-1956 in your sprays.

Powdery mildew is staging a comeback in many areas. KARATHANE WD is the first organic fungicide to really control this fungus disease without harming the crop, the blossoms or the foliage. When properly used, it is safe for the spray operator and for the consumer. Apple growers and nurserymen are urged to contact their Rohm & Haas fieldman . . . or write direct for complete information on KARATHANE WD—the most effective way to stop powdery mildew and boost yields.



Chemicals for Agriculture

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KARATHANE and TRITON are trademarks, Reg. U.S. Pat. Off. and in principal foreign countries.

KARATHANE WD

THE QUESTION BOX

Don't be perplexed! Send us your questions—no matter how big or small. A 4-cent stamp will bring you an early reply. Address: The Question Box, AMERICAN FRUIT GROWER, Willoughby, Ohio.

WHERE CAN I BUY

Blaze apple?—Arkansas.

Stark Bro's Nurseries, Louisiana, Mo.; Egyptian Nursery and Landscape Co., Farina, Ill.; Hobbs Nursery, Bridgeport, Ind.; Lorne J. Doud, Wabash, Ind.

Ben Owens peach?—North Dakota.

David A. Lawyer, Plains, Mont., developer of this variety, has a limited supply.

Trumpeter strawberry?—Pennsylvania.

Johnson's Nursery, Becker, Minn.; Newland Nursery, Lake City, Minn.; Wade Zieske, New Ulm, Minn.; Frank Ronkowski, 1448 Breda Ave., St. Paul 13, Minn.; James Rougier, Osseo, Minn.; Melvin Tyrrell, Dunnell, Minn.; H. H. Petersen, Warrens, Wis.; Earl Ferris Nursery, Hampton, Iowa, are some sources for this new variety.

Red Robin and Comanche peach?—California.

Armstrong Nurseries, Ontario, Calif., has Red Robin.

For Comanche try: Stark Bro's Nurseries, Louisiana, Mo.; Hobbs Nursery, Bridgeport, Ind.; and Bountiful Ridge Nursery, Princess Anne, Md.

WHAT'S A FAIR RENTAL?

What would be a fair rental for a 12-year-old peach orchard?—Illinois.

One rental agreement which seems to work has the owner furnishing land and trees, the tenant furnishing equipment, all labor, supplies, spray material, containers, and assuming all marketing expense. The renter agrees to prune and spray the orchard regardless of crop. Rental is on the basis of so much per unit of packed-out fruit. A range of 10 to 12 cents per bushel is used in some areas for this rental fee.

In another instance, the owner supplied land and trees and use of a refrigerated storage for 5% of the gross sales of the fruit marketed. The renter in this case paid the power cost of operating the storage, but the owner took care of repairs.

GRAPE WEED CONTROL

I've read that Karmex gives good control of weeds and grass in vineyards. Where can I get it?—Maine.

Karmex DW (diuron) is made by E. I. duPont de Nemours and Company, Wilmington 98, Del.

WILD STRAWBERRY FLAVOR

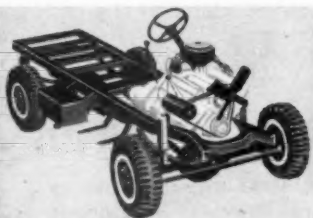
What variety of strawberry tastes most like the wild berry?—Ohio.

Flavor is a very elusive quality in comparing different varieties with wild strawberries. It varies greatly depending on the growth of the plants, temperature, and humidity at the time the fruit is maturing. The USDA at Beltsville, Md., has found that Sioux and Arrapahoe are two of the newer varieties which taste most like wild strawberries under growing conditions there.

DODGE CORRALS BIG SAVINGS Whether it's dogies

or dollars, this rough and ready Dodge Sweptline rounds up a whole herd of savings. You knock dollars off your gas bill with top performance on regular gas . . . V-8 or Six. She's nice and easy to handle, too. You can cut and turn in the tightest spots with Dodge's modern gear-before-axle steering and extra-large brakes. You can't find a pick-up with bigger load space . . . that means fewer trips, more savings! Meanwhile, back at your Dodge dealer . . . you'll find a low price tag that says "Dodge" is your brand for big savings in every truck range. Choose from 140 moneysaving models.

Dodge 4-wheel-drive models are available with rugged Six or V-8 engines up to 202 hp. 6,000 lbs. to 20,000 lbs. max. G.V.W.



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A PRODUCT OF CHRYSLER CORPORATION



**Poison Ivy
grows
where
your men work.**



**THEY CAN'T
AVOID IT!**

**BUT AQUA IVY TABLETS
CAN MAKE THEM IMMUNE TO
POISON IVY, POISON OAK!**

Poison ivy (called poison oak in many areas) grows in almost every state, in most rural areas. That's why your men can't avoid exposure.

And that's why Aqua Ivy's immunity makes so much sense. Immunity means protection-from-within, protection that your men carry with them wherever they work. Not a lotion or an ointment, but an easy-to-take tablet, Aqua Ivy's protection lasts up to 12 months.

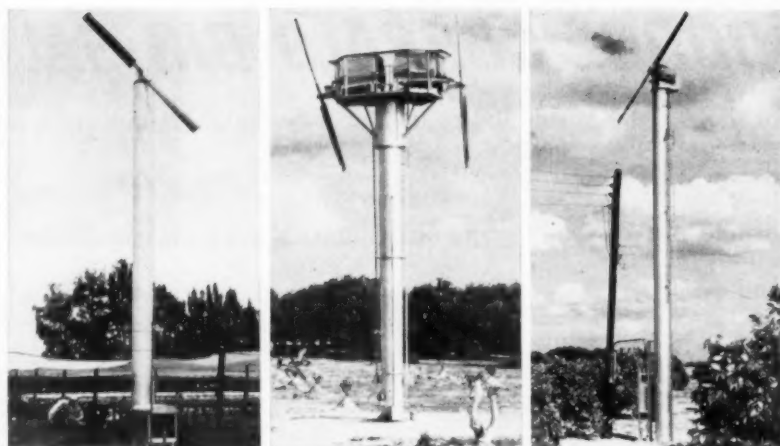
Aqua Ivy AP® Tablets are safe — no harmful side effects. And they work — proven effective in 95% of cases.

Available in an economical, industry-sized bottle containing 1,000 tablets. Thus, for just a few dollars per employee, you can provide your men with season-long immunity! (And this cost is invariably saved many times over in reduced absenteeism.)

REMEMBER: It takes time to build full immunity. So order Aqua Ivy Tablets now, before the poison plant season starts. Available through your regular drug channels in the United States and Canada.

YOURS FREE: For distribution to your men, quantities of Aqua Ivy's informative booklet "Facts You Should Know About Poison Ivy and Poison Oak". Also a "Poison Plant Recognition Poster" to tack on bulletin boards.

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Ground-powered, engine driven wind machine at left protects flowers when temperature drops. Dual engine model in citrus grove, center, can cover 18 to 20 acres. Electric-powered unit with motor on top is shown at right. All models are Tropic Breeze wind machines manufactured by Florida Division, Food Machinery and Chemical Corporation, Lakeland, Fla.

ROUTING JACK FROST

**Wind machines keep air stirred up
in orchards, prevent frost damage**

APPROXIMATELY 250 to 300 wind machines are now in use for frost protection in the East, with the largest concentration in the Florida citrus belt. Apples and almonds, however, and vegetable and flower crops have also been successfully protected by this method.

Wind machines are used to circulate the air in orchards. After sunset, the earth, every tree and plant, and every fruit, leaf, and branch begins to lose heat by radiation. On cold, still nights, the heat given off in this manner rises to about 30 to 50 feet and is replaced by colder air. This process is known as air inversion.

The wind machine breaks up this inversion by causing the warm air to mix with the colder air at ground level. This results in raising the temperature at ground level, in some cases as much as 6 to 7°. When the frost results from a cold front (advection) and there is little or no temperature inversion, wind machines may not be of much help.

Wind machines are generally available in four types: ground powered, single engine on top, two engines on top, and electric powered. Industrial gasoline engines are used for power, and a propane engine is also available. Most ground power models can be supplied without an engine and with a tractor power take-off.

The full benefit of frost protection can be obtained only if the wind machine is properly located in the orchard. An experienced engineer

should "walk" the acreage to establish the correct location. Factors which must be considered are height and spacing of trees, topography of the land, wind drift, location of lakes or other bodies of water, and natural air drainage.

Effectiveness or coverage varies according to the horsepower and size and shape of fan blade used. Generally the more efficient machines give a coverage of 8 to 10 acres with a single fan and 18 to 20 acres with a dual fan.

Operation costs of wind machines are considerably lower than for other methods of frost protection. There is no need for a firing crew as is required where orchard heaters are used, and fuel consumption is estimated at about 6 gallons per hour per machine.

Price of the machines ranges from about \$3000 for the single-engine to about \$7000 for the two-engine type.

RECAPTURING SALES

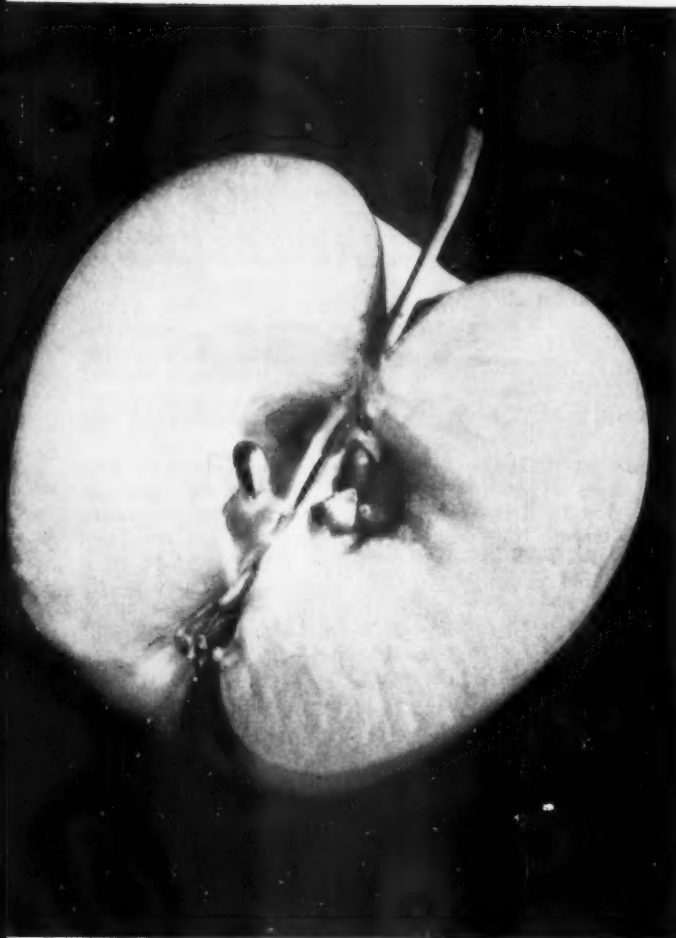
THE Keystone state has found an answer to the problem of vanishing roadside sales caused by the building of limited-access highways.

Farm products are now being sold along the Pennsylvania Turnpike through the Howard Johnson chain of restaurants.

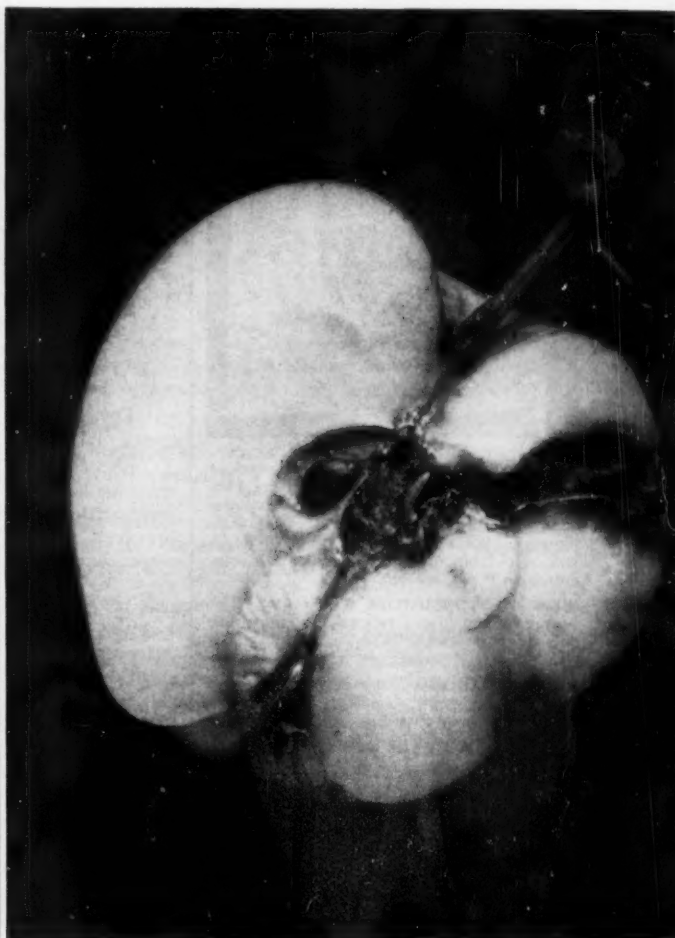
Last season \$16,861 worth of apples and \$8765 worth of maple syrup were purchased for sale to travelers. Apples were sold in bulk and in consumer packs. Some \$5012 of apples went into pies.

AMERICAN FRUIT GROWER

BOTH OF THESE APPLES WERE SPRAYED FOR CODLING MOTH



*This apple was sprayed with malathion.
It did the job.*



*This apple was sprayed with DDT.
Resistant codling moth did the job.*

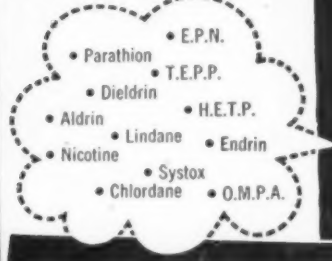
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Safe, comfortable protection
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This dependable respirator makes outdoor spray programs safer. New type filters keep users on the safe side of toxic sprays. Replaceable with in-use M-S-A Farm Spray Respirators. M-S-A Respirators are accepted by U.S. Government Interdepartmental Committee on Pest Control.

M-S-A GMC-1 INDUSTRIAL GAS MASK—For heavier mixing concentrations of all the above organic insecticides. "All-Vision" facepiece gives full facial protection, maximum vision.

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Dealers Wanted

APPLES

Semi-Dwarfs

THE large apple tree is on its way out. The tailor-made smaller tree is replacing it. Whether or not the smaller tree is produced by a dwarfing rootstock, by heading back a standard tree, or by planting a small-growing variety, the demand for it is everywhere in Michigan and elsewhere.

The need for smaller fruit trees was foreseen by Dr. H. B. Tukey 15 years ago when he planted an orchard on different dwarfing rootstocks at Michigan State University horticultural farm, and before that when he began the rootstock work at New York State Agricultural Experiment Station, Geneva.

Since no certain variety/rootstock combinations were recommended at the time of planting this orchard, several combinations were included. They were as follows: McIntosh/-EM I, II, IV, V, VII, XII, and XIII; Cortland/EM II, IV, V, VII, XII, and XIII; Wealthy/EM XII and XVI; Northern Spy/EM VII; Golden Delicious/EM XIII; and Fameuse/EM XII.

The original planting set in 1945 was made up of 10 trees of each combination planted 15x20 feet; however, in 1953 the alternate rows were removed to allow the trees to grow to natural height and width, leaving a 20x30-foot spacing.

The soil in this orchard is a Hillsdale sandy loam similar to many of the orchard sites in Michigan. Rainfall during the first 14 years of the orchard was normal (30 inches average) for the area, with a low in 1953 and 1958 of 22.8 and 21.7 inches respectively. The prevailing temperature for East Lansing did not vary from the normal, except for 1955 when blossoms were frozen in the spring.

The first four years the orchard was in clean cultivation and since then it has been in a fescue sod with a straw mulch around the trees. During the first five years, each tree received an annual application of 2 pounds of a complete fertilizer plus 1 pound of ammonium nitrate.

From 1950 to 1953, each tree received 4 pounds of 10-10-10 fertilizer; in 1954 and 1955, 6 pounds; and in 1956, 1957, and 1958, 8 pounds of a 12-12-12 analysis. So as not to have the fertilizer too concentrated near the trees, it was applied in a wide circle extending about 1 foot outside the branch reach.

In order to observe more closely the influence of the different rootstocks on the apple varieties, the trees were pruned very little the first six years after planting. Branches in crowded positions and those directly above a permanent scaffold branch were removed. In 1951, however, some of the larger branches that had developed into leaders were headed back to a smaller lateral branch in order to discourage further upright growth in favor of lateral branch development. This resulted in a well-shaped globose (spherical) type of tree with the maximum bearing surface within easy reach from the ground.

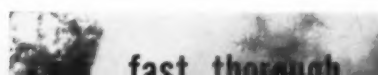
The trees have grown well with this system of pruning and culture so that at the present time they have closed the space between the trees in the 20-foot direction, forming a hedge-row appearance. There is still ample room for orchard operations in the 30-foot spacing. Most of the trees became well established from the start; however, a few trees on EM IV and VII had to be staked the first five or six years to give them some support until they were well anchored in the ground.

The smallest trees in the orchard are McIntosh and Cortland on EM VII, being 13 feet high and 16 feet wide; the largest trees are McIntosh on EM XII and XIII, being 16x20



Semi-dwarf orchard at Michigan State University at beginning of its 14th growing season.

AMERICAN FRUIT GROWER



After an extremely bad population of mites in 1958, I relied on Genite exclusively to control mites on my apple trees last year. The results were excellent—absolutely no mite damage! I definitely plan to use Genite again in 1960.

*Russell Diez,
Youngstown, N. Y.*



"Absolutely No Mite Damage!"

with **GENITE**[®] Amazing **"SURE-SHOT"** Spray For Early Mites

Like apple grower Russell Diez, thousands of profit-minded fruit growers, coast to coast, now rely on Genite Miticide to protect their crops against European red mites and clover (brown almond or bryobia) mites. Here's a sample of what the others are saying:

No mite problem!

"Last spring we had heavy egg deposits on our fruit trees, but Genite did the job . . . gave us no mite problem and more profit."

E. R. Tam, Jr., Burnettsville, Indiana

Excellent control!

"We've been using Genite for mite control in our orchard for 4 years now. Control has been excellent. I recommend it highly."

R. E. Young, Galesville, Wisconsin

More effective! More economical!

"Having used Genite as a pre-bloom application for control of European Red Mite for the past 5 years, my experience has been that it is more effective and economical than any other product I have tried."

John Babcock, Hartford, Michigan

Effective far into summer!

Genite Miticide is so effective just *one* spraying will protect

your fruit trees (apple, pear, plum, prune and peach) far into summer. You'll need to make fewer late season sprays . . . cut down mite populations so effectively that control results will often continue into the following year.

Safe to use!

Genite Miticide kills mites and their overwintering eggs *before fruit formation*. When sprayed on trees between delayed dormant and full bloom, it can't injure fruit . . . won't damage trees or buds. What's more, Genite Miticide is virtually non-toxic to bees and other useful insects when used as directed. It kills mites—and mites only!

Easy to use, economical!

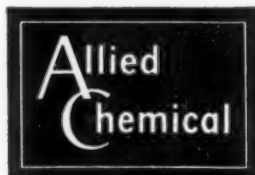
Genite Miticide comes in both 50% emulsifiable and 50% wettable powder forms. Both are easy to apply and are widely compatible with other spray materials. Economical, too! Only 1 to 1½ pints of emulsifiable or 1 to 1½ pounds of wettable powder are needed for each 100 gallons of water.

For Added Effectiveness, add **PLYAC**^{*} Polyethylene Spreader-Sticker!

Plyac is Allied Chemical's amazing new non-oil spreader sticker that improves the efficiency of all sprays. Makes them stick better and last longer, even in rainy weather when other sprays wash off easily. Result: with Plyac spreader-sticker you prolong killing action . . . stretch spray effectiveness . . . reduce the amount of re-spraying necessary. Plyac spreader-sticker is easy to use and economical, too! Comes in convenient liquid form. Only 2 to 4 ounces are usually required for each 100 gallons of spray mixture. **For best protection, make it Genite for mites and Plyac for all sprays!**

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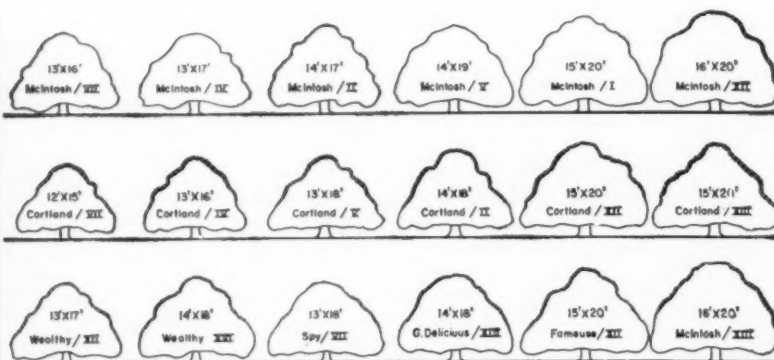
Each installation is specifically planned to meet the requirements of the individual fruit storage area. And each installation is followed up by United's engineers to assure full satisfaction to the fruit grower.

You are invited to discuss your low-temperature insulation requirements with us.

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Comparative height and width of 18 apple variety/rootstock combinations at 14 years of age.

feet. The other variety/rootstock combinations fall in between this range in height and width. These measurements were taken a few weeks after harvest.

The relative height of 15 feet and a tree spread of 10 feet from center appears to be ideal for harvesting of the crop since in this way about two-thirds of the fruit can be picked from the ground. Other orchard operations such as spraying and pruning are also more conveniently and economically done on these smaller trees.

Early production in the life span of an orchard is one of the features of smaller-than-standard trees. It was found that this orchard started

the apples have colored more uniformly than in standard trees. And in general the fruit also has been more uniform in size.

Although most of the variety/rootstock combinations in this orchard have been productive, and from all indications they will continue to be so for some years to come, certain of the rootstocks appear more promising than others. McIntosh and Cortland look good on both EM II and VII, Northern Spy comes into early bearing on EM VII, and Golden Delicious on EM XIII makes a uniform and well-shaped tree.

The East Malling II and VII rootstocks are now used and planted at

AVERAGE ANNUAL YIELDS PER ACRE OF ORCHARD SHOWING PRODUCTION OF 144 TREES PER ACRE (1947-52) AND OF 72 TREES PER ACRE (1953-59) OF FOUR VARIETIES AND THREE ROOTSTOCKS OF COMMERCIAL USE

Variety/rootstock	144 Trees per Acre						72 Trees per Acre					
	1947	1948	1949	1950	1951	1952	1953	1954	1955	1957	1958	1959
	Bushels per acre						Bushels per acre					
McIntosh/II	12	9	101	352	244	522	522	243	766	432	956	468
McIntosh/VII	0	26	216	392	381	718	513	95	656	608	883	720
McIntosh/XIII	0	0	13	123	381	718	639	104	737	405	1612	604
Cortland/II	36	35	220	430	244	763	400	94	794	648	875	1296
Cortland/VII	6	35	111	271	201	727	414	52	518	389	423	792
Cortland/XIII	0	1	18	150	223	540	459	112	494	300	792	1080
Golden Delicious/XIII	0	0	3	207	569	573	580	112	940	680	1199	788
Northern Spy/VII	0	0	40	54	248	299	169	167	623	389	842	403

to bear the second year and by the fourth year it had a commercial crop of marketable apples.

The yields have increased annually with only moderate variation as to biennial bearing, as shown in the accompanying table. In fact, the 10-year (1948-58) average annual yields, for most of the varieties, have been over 400 bushels per acre. Wealthy on EM XII and XVI produced an average of 570 and 471 bushels per acre; Golden Delicious/EM XIII, 486 bushels; McIntosh/EM II, VII, and XIII, 414, 448, and 473 bushels per acre respectively. Northern Spy which normally does not come into production until the 15th year, averaged 283 bushels during the same 10-year period.

It has been observed during the first 14 years of this orchard that

increasing rates annually in Michigan for dwarfing commercial apple varieties.—R. F. Carlson, Michigan State University, East Lansing.

Facts and Figures

DUE to the increasing interest in bargaining associations, a bulletin, published in May, 1959, by University of California, is well worth reading if you have not already done so.

Apples—Fresh and Processed—Economic and Marketing Statistics by B. M. Bain and Sidney Hoos, contains an excellent backlog of statistics on prices, production, etc.

Copies of the bulletin are available from Agricultural Publications, Gianini Hall, University of California, Berkeley 4, Calif.



**Sure way
to bigger
profits!**

Nemagon®

IT'S TIME AGAIN TO PREPARE your soil for planting. Time, too, for nematode control. At the top of the list of thoroughly tested and approved soil fumigants you'll find Nemagon Soil Fumigant. You get sure nematode control every time.

Nemagon Soil Fumigant is tailor-made for efficient nematode control. It is easy to apply. As a liquid simply inject it directly into the soil with a pressure feed or gravity flow tractor attachment. Liquid Nemagon can also be ap-

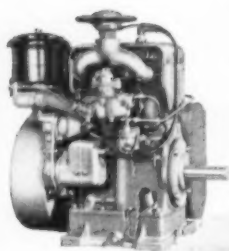
plied through irrigation systems. For dry applications broadcast Nemagon Soil Fumigant granules alone or in a fertilizer mix. And better still, it is economical. One pre-plant treatment means *good-bye to nematodes* for an entire season!

Don't risk nematode damage this season. Use the soil fumigant that's backed by years of successful use. Use Nemagon Soil Fumigant. Nemagon Soil Fumigant is available under well-known brand names from your local dealer. Don't delay—see him today!

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AGRICULTURAL CHEMICALS DIVISION
110 West 51st Street, New York 20, New York





HI-TENDER, made by Stemm Brothers, Inc., Leavenworth, Wash., permits fast, safe pruning and picking of fruit trees. It is powered by a 2-cyl. Wisconsin Engine.



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The equipment builder can't afford to take chances because the engine is the operating heart of his machine. It must be field-tested and approved by the original equipment manufacturer before final selection.

The engine must measure up to the equipment builder's performance and quality standards . . . both mechanically and on the job. His good judgment is backed by more than 50 years of engine-building experi-

ence when he specifies "Wisconsin" as original power equipment for his machines.

So we repeat . . . you don't buy "a pig in a poke" when you invest in Wisconsin-powered equipment.

All Wisconsin Engines are of heavy-duty design and construction. They are engineered and built to stand up to hard service and weather extremes from low sub-zero to 140° F. In addition, the engine is custom-engineered to fit both the machine and the job. And that's why it pays to specify "Wisconsin Power" for your equipment.

Write for free copy of engine bulletin S-249. Address: Dept F-30.



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Larger and completely revised for 1960. For economical and safe spraying, the compatibility of the various organic insecticides and fungicides is a must. AMERICAN FRUIT GROWER has again produced an ingenious spray compatibility chart which tells the grower at a glance just what chemicals will mix safely. Printed in 3 colors on HEAVY, LONG-LASTING ENAMEL STOCK, it will guide you through the spraying season ahead. Also the important companion Spray Safety Chart which has been developed to help you in the safe, sure way to use these spray materials.

Order both charts—a 70c value—for only 60c. This offer good only in U.S.A. and Canada. Quantity prices on request. Coin or your check must accompany each order.

AMERICAN FRUIT GROWER, Willoughby, Ohio

PEARS

Combating Decline

WITHIN a short span of a dozen years Bartlett pear production in Washington has been cut in half, from 6 million bushels in 1947 to 3 million bushels in 1959. As reported in the January, 1960, issue of AMERICAN FRUIT GROWER, a major cause of the drop in production is pear decline.

Evidence indicates that pear decline is a disorder at the bud union and is associated with certain root-top combinations. Examination of affected trees has shown a degeneration of the bark tissue near the bud union. It is believed that this condition prevents adequate movement of food material to the roots, resulting in a weakening or death of the root tissue, which in turn adversely affects the growth and production of the top.

A great majority of the decline in central Washington is prevalent on trees planted from about 1917 to the early thirties when Oriental rootstocks were widely used for propagation. Trees propagated on French roots are frequently affected.

Evidence to date indicates that trees propagated on domestic Bartlett seedlings are as satisfactory as any combination. In Oregon, where Old Home has been used extensively as a blight-resistant interstock, pear decline has not been observed on trees where the Old Home trunks have rooted.

Some planting recommendations have just been published by the departments of horticulture and plant pathology of Washington State University, Pullman. They are:

- Remove all trees affected with pear decline that are not producing profitable crops.
- Replant trees in these locations using virgin soil to reduce injury from arsenic toxicity.
- Plant trees that have been propagated on domestic (Bartlett, Winter Nelis, etc.) seedlings. Do not plant trees propagated on Oriental seedlings.
- Deep planting to induce scion rooting may prove helpful on relatively light soils with good internal drainage.
- Trees with Old Home trunks may be used. They should be planted with the bud union several inches below the groundline to afford rooting.

THE END.

AMERICAN FRUIT GROWER

NEAR PERFECT FUNGICIDE KEEPS LEAVES ON CHERRY TREES

*Growers using new Cyprex® 65-W report
up to 7 times better control of leaf spot*

Cyprex 65-W, an entirely new kind of fungicide for cherry leaf spot, has been the big news at grower meetings this winter and spring.

Extensively tested for the past five years by Experiment Stations and growers, Cyprex is now going into widespread use.

What you can expect from Cyprex

In hundreds of trials, Cyprex 65-W gave leaf spot control that approached 100%. Growers, who had compared Cyprex with the best previously available fungicides on regular schedules, reported up to 85% less leaf spot (7 times better control) on blocks protected with Cyprex. In many cases this near-perfect control was achieved with fewer applications than were required with their old fungicides.

What makes Cyprex so effective?

First, Cyprex takes dead aim on *Coccomyces hiemalis*, the fungus that causes cherry leaf spot. Second, Cyprex combines built-in spreader-sticker action with automatic redistribution of residues for positive, long-lasting protection against cherry leaf spot. Here's what happens.

Cyprex spreads itself around, thoroughly covers the entire leaf. Then, to make this protection last, it sticks, resists the harshest weathering.

Automatic redistribution

Finally, for extended protection, Cyprex automatically redistributes its residues to protect new

growth that has emerged between applications.

For example, after a Cyprex application, buds have opened, existing leaf surfaces have enlarged. It rains. Some Cyprex residue is washed onto this new growth. Built-in spreader-sticker action makes Cyprex cover this new growth completely, then keeps it there. And, enough Cyprex remains on the originally sprayed areas to maintain protection.



Both of these trees were photographed in October. The one below shows how one post-harvest spray with Cyprex keeps leaves on trees.



Now... extra-long leaf retention from one post-harvest Cyprex application

One post-harvest application of Cyprex has consistently kept leaves on the trees into October. To get similar results with other fungicides, at least two post-harvest applications have often been necessary.

Other advantages of Cyprex

Cyprex protects fruit quality as well as yield. It is compatible with most commonly used insecticides and other fungicides. Cyprex is non-caustic and low in toxicity. When used as directed, it presents no hazard to orchard workers.

How to use Cyprex

Cyprex is accepted for use on sour cherries and non-bearing sweet cherries. The recommended rate is 1/2 lb. of Cyprex 65-W per 100 gallons. Make first application when first leaves unfold or at petal fall, then continue through the season at 7 to 10 day intervals.

One post-harvest application is recommended.

In some areas, lower rates of Cyprex have given excellent control of leaf spot. Local authorities can advise you on the most efficient schedule for your area.

Where to get Cyprex 65-W

Cyprex, a product of American Cyanamid Company, is available in 25 and 50 lb. containers through your dealer or manufacturer's farm representative.

Write for free leaflet PE 5061. American Cyanamid Company, Agricultural Division, 30 Rockefeller Plaza, N. Y. 20, N. Y. ®Cyprex is American Cyanamid Company's trademark for dodine fungicide.

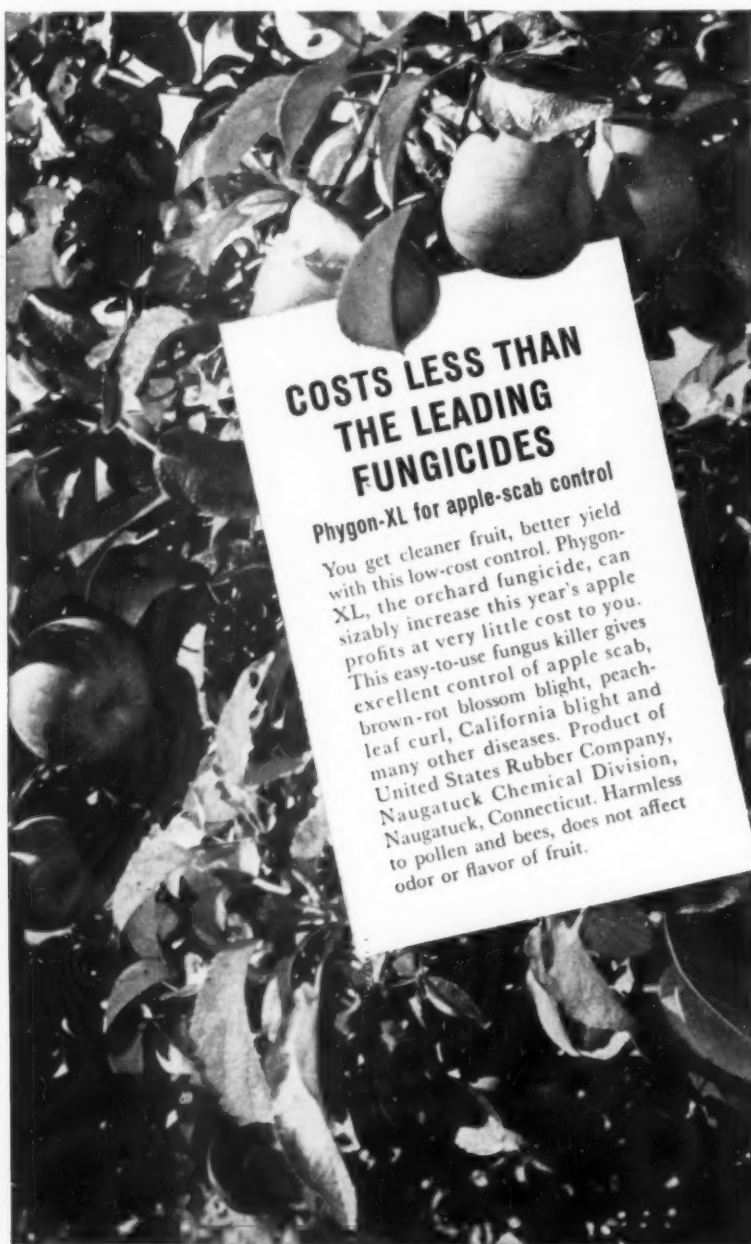


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producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Sperton, Phygon, Aramite, Synklor, MH, Alanap, Durasol.

46

GRAPES

New Varieties

RECENTLY released by USDA are three new varieties of grapes, Osborn, Keating, and Chilcott. These originated at Southern Great Plains Field Station, Woodward, Okla., as open-pollinated seedlings and were selected by L. F. Locke.

All have proven very drought resistant in western Oklahoma and are probably adapted best to the Southwest because they are somewhat lacking in winter hardiness.

Osborn is a black fruited seedling of Armalaga. The fruit quality is good and the variety stores well.

Keating is a white fruited seedling of Last Rose. The quality is good to excellent and was rated highest of the group tested. Fruit of this variety does not keep well in storage.

Chilcott is a dark red to black fruited seedling of Volney and is least hardy of the three. It stores well, has a distinct muscat flavor, and although it is a "slip skin," it might compete with West Coast varieties on local markets. The quality is good to excellent but it is not liked by those who do not care for the muscat flavor.

A limited number of plants and cuttings of these three varieties are available to interested nurserymen and grape growers from U. S. Southern Great Plains Field Station, Woodward, Okla.

The Grape Cure

TO most of us, the grape is just another fruit. Some of us taste grape juice occasionally, and probably all of us are familiar with wine made from grape juice. But the grape possesses special virtues unknown to the majority that entitles it to be known as Queen of Fruits.

Probably the first fruit cultivated by man was the grape, the fruit of the vine. Among the Greeks the seedless grapes of Corinth formed practically the only food of the athletes. When Lief Ericson landed on the coast of New England he found grapes growing wild and named the country "Vineland."

In 1860, the entire grape industry of France was threatened with extinction when the Phylloxera louse was accidentally introduced from America. Since the American vines are immune to this insect, a ready solution was found by using American vines as rootstocks. At present there are nearly 800 varieties of grapes grown in America.

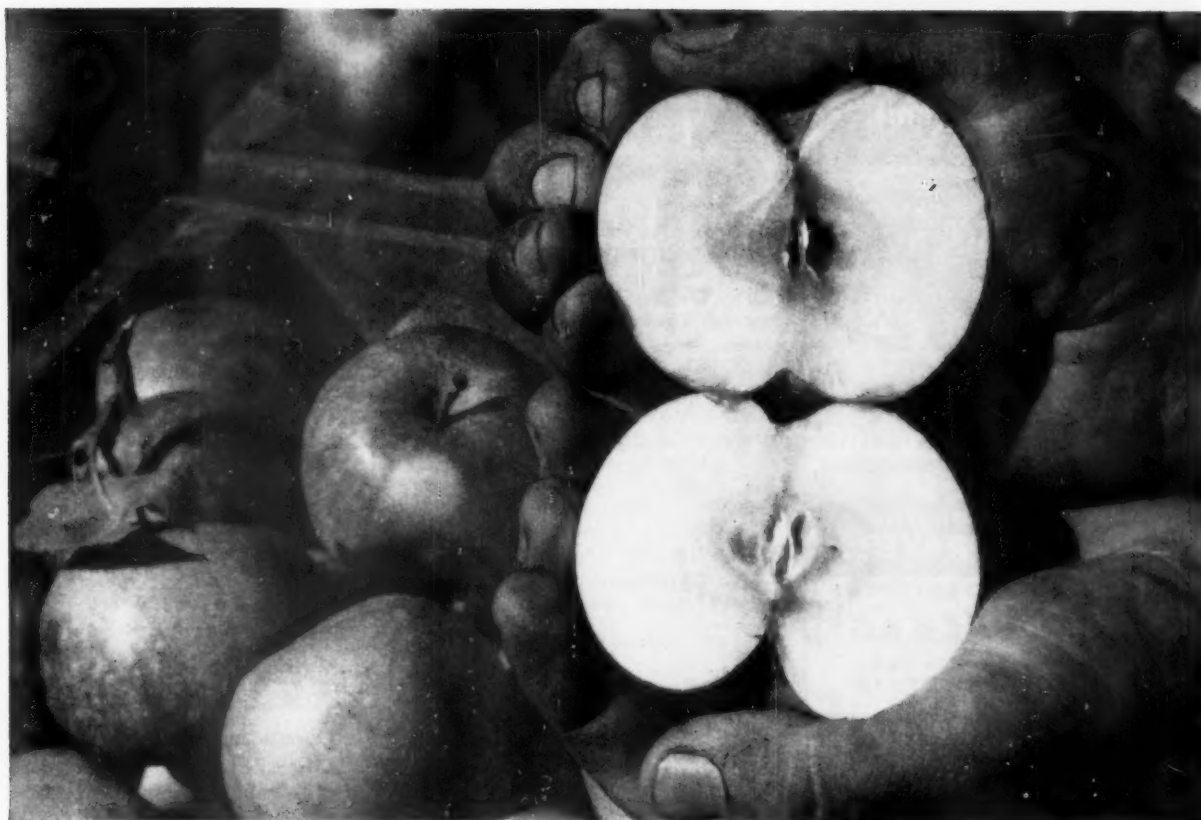
The grape is not only a fruit and

AMERICAN FRUIT GROWER

FOR THE GROWER WHO

a food, but has medicinal properties of the first importance for the promotion of health and longevity. That it can be the "milk of the aged" is

is meant the eating of grape exclusively for a period of two to seven days, depending upon the severity of the case. One to four pounds a



Could yield and quality have been improved?

Many growers are losing money because of magnesium deficiency... a new problem here in the west. Here's what you can do about it.

When your crop is sold and the profits are in, it's only natural to ask yourself, "Could my yield and quality have been better... could I have made more profit?"

The answer is "yes" for many western growers. The reason: magnesium deficiency, which is fast becoming a serious problem for fruit growers in the state.

Magnesium deficiency is hard to pin down. It doesn't show up on ordinary soil tests. And a lack of magnesium usually hurts yields and quality for years before the tell-tale signs show up on the tree.

The best way to "insure" your crop against magnesium deficiency is to buy mixed fertilizers that contain Sul-Po-Mag. Sul-Po-Mag is an excellent source of magnesium, sulphur and sulphate of potash. It's water-soluble,

fast-acting... yet it dissolves at just the right rate to feed trees all season.

Next time you buy fertilizer, be sure it contains Sul-Po-Mag. Look for the SPM seal on the bag or ask for it by name. For more information about Sul-Po-Mag, mail the coupon below.

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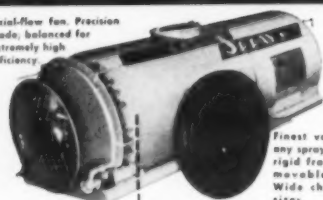
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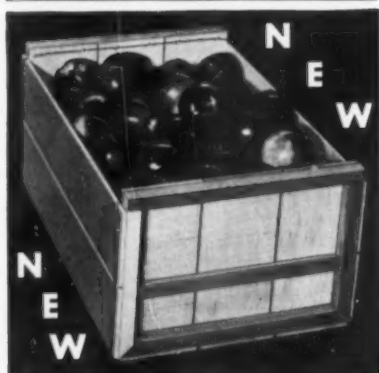
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a food, but has medicinal properties of the first importance for the promotion of health and longevity. That it can be the "milk of the aged" is attested by Luigi Cornaro who lived to be 103 years old. This famous valetudinarian, born in 1464, gives a glowing account in his autobiography of the virtues of fresh wine. He tells how each year his stomach became greatly disordered during July and August and how the new wine of September restored him to perfect health.

Why should the new wine have restored Cornaro to health, and wherein does its virtue lie? There are some facts in regard to the grape industry that appear to provide an answer. It is well known that as wine ages a deposit forms in the casks known as wine lees or argol. This material being insoluble in alcohol precipitates as the alcohol increases during fermentation. The argol is primarily acid potassium tartrate or cream of tartar which is used in baking powder, and is also the source of commercial tartaric acid.

Among the common fruit acids such as malic and citric, only tartaric is listed in the United States pharmacopeia in the form of Seidlitz powders, on account of its laxative properties. This is due to the fact that tartarates are not readily absorbed from the intestinal tract.

Thus the acidity of acid potassium tartrate may extend into the lower bowel and even check putrefaction. Its acidic properties are also useful in promoting better calcium and iron absorption as well as aiding the digestion of proteins described in texts in physiology.

Coming down to modern times, the virtues of the grape are recognized under the form of the grape cure. There is a large literature on the subject, most of which is not readily available to the public. The grape cure is very popular in France and other European countries. Many people annually spend one or two weeks in the grape vineyards. It is especially useful in liver complaints and in anemia through the regeneration of hemoglobin.

In many cases of chronic constipation, bowel regularity can be established by means of the grape cure. It appears that the tartaric acid of the grape is especially potent in ridding the body of accumulated toxins through its peculiar dissolving, cleansing, and eliminating properties, paving the way for building up and rejuvenating the body.

For best results, especially in long standing cases of toxemia, authorities on the grape cure recommend what they call the mono diet. By this

is meant the eating of grape exclusively for a period of two to seven days, depending upon the severity of the case. One to four pounds a day may be used in accordance with the activity of the person.

The fresh grape in season is best for this purpose; however, when not available, raisins or pure grape juice may be substituted. Incidentally, the grape cure is one of the finest and easiest reducing aids known and if overweight, one can easily lose five pounds a week.

The virtues of fruit in the diet are now better known by the public. The trend in fruit production and consumption is definitely upward. The grape cure could even be employed with profit by so-called normal people in average good health, especially those past middle life, as a means of purification, and warding off diseases that may be latent or unsuspected.—S. Marcovitch, Head, Department of Entomology, University of Tennessee, Knoxville.

BERRIES

New Strawberry Varieties

TRUMPETER is the name of a new June-bearing strawberry introduced this spring by University of Minnesota Agricultural Experiment Station. The fruit is red throughout, firm for shipping, and of very good flavor. In tests of more than 300 varieties and selections of strawberries, the university food processing lab found Trumpeter to be one of the best strawberries for freezing—superior to Premier and Beaver.

Plants of Trumpeter strawberry are available from a number of nurseries.

Midway is the name of a new mid-season strawberry which has shown excellent production results where it has been tested in Maryland. The new berry, developed by USDA and Maryland Agricultural Experiment Station, is red stele resistant and is recommended for both home use and market.

USDA Small Fruit and Grape section has released the Midway strawberry to several eastern seaboard nurseries.

Mexico Vies for Market

PRELIMINARY estimates indicate that Mexico's 1960 strawberry crop will total 28.2 million pounds, compared with 22 million in 1959. It is expected that about 18 million pounds will be frozen, most of which will be exported to the United States and Canada.

AMERICAN FRUIT GROWER

NEW! from John BEAN

STONE FRUITS

weeks before Redhaven. Its trees are very productive and require heavy thinning in most seasons. Nine full

CITRUS

Tedion Use Extended

APPROVAL by USDA has been given to the extended use of Tedion miticide (Niagara Chemical Division of Food Machinery and Chemical Corporation) to control citrus red mite, six-spotted mite, and Texas citrus mite on trees carrying citrus citron, grapefruit, limes, oranges, tangelos, and tangerines.

A tolerance of 2 ppm for residues on these six types of citrus trees when fruit is present has been established. In effect, the new label claims permit a single application of Tedion miticide during any part of the season.

In early trials conducted against citrus red mite, 1 pound of Tedion 25 wettable powder per 100 gallons of water, applied at the rate of approximately 1000 to 1500 gallons of spray per acre, gave excellent control for as long as 254 days. Average length of control on the West Coast was 229 days. In another test, where 2 pounds of material per 100 gallons of water were used, good control was observed for 372 days.

Only one application of Tedion miticide may be given to the fruit per season.

Book on Virus Diseases

THE University of California's Division of Agricultural Sciences has issued a 244-page book entitled *Citrus Virus Diseases*, edited by J. M. Wallace, plant pathologist at Citrus Experiment Station, Riverside.

The 35 technical papers included in the book were presented at the International Conference on Citrus Virus Diseases held at Riverside in November, 1957. The book is aimed for the researcher rather than the grower.

Copies of the book may be obtained from Agricultural Publications, 207 University Hall, University of California, Berkeley 4, for \$3.50 per copy. Make check or money order payable to The Regents of the University of California.

They're Still "Limeys"

IN the days of sailing ships, lime juice was used by sailors and explorers to ward off scurvy. In 1795, it became a part of the daily diet of the British Navy. Its daily use brought the nickname "Limey" for these sailors and the term "Limejuicers" for their ships.

Even now, with modern refrigeration, lime juice is a conveniently carried refresher for exploratory and military expeditions.

APRIL, 1960

NOTICE



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An early spray with PHIX kills disease-causing organisms, providing the most effective and most important single control measure available. Recommended by fruit specialists and leading commercial strawberry growers.



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STONE FRUITS

Sweeter Tart Cherries

RECENT tests on Montmorency cherries indicate that Nu-Iron (Tennessee Corp., Atlanta, Ga.), an organic iron product, improves cherry quality when added to the regular spray program. This report comes from Michael Szkolnik and J. M. Hamilton, plant pathologists at New York State Agricultural Experiment Station, Geneva.

During the 1959 season, several growers in Wayne County, New York, co-operated in this experiment.

At the Fred Malchoff orchard, south of Alton, Nu-Iron ($\frac{1}{2}$ -100) was applied with the regular sprays to part of the cherry acreage in four dilute preharvest applications with air-blast equipment. At harvesttime, cherries from these trees had 15.5% sugar and a color rating of 8.5 as compared with 14.8% sugar and 8.0 color rating for fruit not receiving the Nu-Iron additive.

A block of Montmorency trees belonging to Alton Canning Co. near Sodus received two applications of Nu-Iron ($\frac{1}{2}$ -100) in the regular spray program. Fruit from this orchard had a sugar content of 16.0% and a color rating of 9.0 compared with 15.0% and 8.0 for fruit from trees receiving the same pesticides without the added Nu-Iron.

At the Sodus Fruit Farm, a single application of Nu-Iron ($\frac{1}{2}$ -100) at 2X concentration was applied in the final preharvest application to a block of Montmorency trees. Cherries sampled at harvesttime had a sugar level of 16.3% compared with 14.8% for the fruit from trees receiving the same pesticides without the Nu-Iron. Color rating was between 8.5 and 9.0 with no significant difference between the blocks.

Growers desiring or needing higher sugar content and darker fruit coloration may want to include Nu-Iron in their sour cherry spray program at least on a trial basis.

A Royal Peach

ROYALVEE—a new early-ripening peach named in honor of Queen Elizabeth's recent visit to Canada—has been released by Horticultural Experiment Station, Vineland, Ontario, Canada.

Fruit of the new variety is medium-sized and bright all-over red in color. The flesh is bright yellow, fairly firm, slow oxidizing, of good quality. It is a semi-cling.

Royalvee matures about two

weeks before Redhaven. Its trees are very productive and require heavy thinning in most seasons. Nine full crops in succession indicate hardiness in bud and ability to set fruit under adverse conditions.

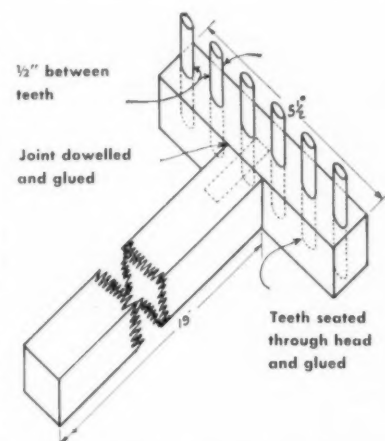
Although a number of Ontario nurseries have been propagating Royalvee, trees will be in short supply until 1961.

Prune Thinning Rake

PRUNE growers in the Gilroy area of Santa Clara County, California, used their inventiveness to develop a thinning rake that has solved their thinning problem. Improvement in the design was made by A. D. Rizzi, extension pomologist, and John Smith, extension field technologist, at University of California.

Field tests for effectiveness of the thinning rake were made as well as tests for possible fruit damage.

At or slightly before pit hardening is the ideal time to use the rake. It



Materials needed for construction of the prune thinning rake are 1-inch square stock $\$45$ for the head and handle and $\frac{3}{8}$ -inch dowel, $1\frac{3}{4}$ inches long, for the teeth. Dimensions may be changed to meet individual needs.

is drawn, teeth up, along the underside of a prune branch from the inside of the tree out. Some leaves and spurs are removed in the process.

The length of the handle is optional so that a ladder may not be necessary if long handles and low-headed trees are involved.

Any fruit bruises or scars caused by the rake are hidden by the subsequent drying process. It would not be advisable to use the rake on fresh plums or prunes.—Joseph W. Osgood, Placer County (California) Farm Advisor, Auburn.

Working drawings for an attractive, easy-to-build roadside stand are available for \$2.00 from AMERICAN FRUIT GROWER, Willoughby, Ohio.

AMERICAN FRUIT GROWER

PEACHES

(Continued from page 13)

take charge of the young orchard. Jesse had about an acre of well-tended peach and apple trees in bearing, and Ralph freely credits him with a large share of his success.

It was sheer luck, however, when Jesse picked up a bundle of strawberry plants, so badly dried out in shipment that they had been discarded as worthless, and planted six of the best of them. McUmber propagated from these and, several years later, had a half acre of plants and all entirely free of the yellows virus then scourging Blakemore plantings over the state.

These plants, and others McUmber had propagated from them, became the stock from which he sold many millions of yellows-resistant plants over a six- or seven-year period. In two successive years he sold 6 million plants, helping restore Blakemore to its former leadership in the state's 20,000-acre industry.

During this period, orchard planting continued steadily: in 1932, a 5-acre block of Golden Delicious; in 1933, 8 acres of Golden and Red Delicious; and in 1934, 8 acres more of Golden, Red Delicious, and Wine-saps. In 1935, 18 acres of peaches were set as well as 800 Lodi apples.

Some of the earliest plantings have been replaced, as Ralph believes in keeping an orchard young. Some new land has been added and new plantings made from time to time. Last year he set several hundred Jonared and Williams Early Red apples and a block of 275 Starkrimson with dwarf Golden Delicious pollinizers, bringing his total orchard acreage up to the 100 mark.

Ralph was named West Tennessee champion strawberry grower 25 years ago, and still gets high production of top quality berries year after year. He will have 26 acres to harvest in 1960 but, just so the devil won't catch him thumb-twiddling (he has been a Presbyterian church elder for many years), he still has half of his 400-acre holdings in general farm crops!

Ralph, like most successful fruit growers today, knows that he must keep up with the fast and frequent changes taking place in our industry. He has been a member of the state horticultural society for nearly 30 years and served as its president in 1941, while he was still a "young" fruit grower.

He has the ability to make important decisions quickly. He has been a Speed Sprayer enthusiast for eight years—bought his second, a bigger and better one, last year. He is also

(Continued on page 53)

APRIL, 1960

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Elgetol is particularly effective in thinning apple crops such as Early McIntosh, Baldwin, Duchess, Wealthy, Yellow Transparent, York Imperial, Yellow Newtown, Jonathan, Golden Delicious and Rome Beauty.

Information on the use of Elgetol as a blossom thinner is available on request. **ALWAYS CONSULT YOUR AGRICULTURAL STATION FOR LOCAL RECOMMENDATIONS.**



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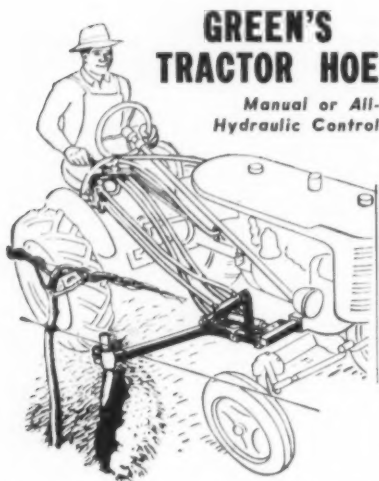
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PEACHES

(Continued from page 51)

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Sodus, Michigan

52



By **HENRY BAILEY STEVENS**

Source of Energy

IN his studies of the "vitamin of love" Dr. Piririm A. Sorokin of Harvard took five hostile pairs of students; in each pair one partner was encouraged to do "good deeds" to the other. In three months each pair had given up their dislikes and become good friends.

"Our knowledge of the mysterious and sublime energy of love is meager," says Prof. Sorokin, "but its revitalizing, curative, ameliorative, and creative functions have been clearly demonstrated."

In response to our request for experiences in this matter, an Iowa reader writes: "I'd say that being sincere is very important in our relationships. Persons having mental illness have usually been misled at some time and become so confused that they cannot find the right way back."

She lines up on one side love, wisdom, virtue, fearlessness, happiness as making for good health, while hate, fear, worry, jealousy, and envy make for sickness.

Dostoevski, the great Russian novelist, wrote: "Seeing the sins of men, one sometimes wonders whether one should react to them by force or by humble love. Always decide to fight them by humble love. If it is carried through, the whole world can be conquered. Humble love is the most effective force, the most terrific, the most powerful, unequaled by any other force in the world."

Does Diet Do It?

MANY people have had the idea that we dig our graves with our teeth. Here's a new slant from S. Marcovitch, retired Tennessee horticulturist.

"Where children are given a self-selected diet, they will reach for only one food at a meal. Over a period of a week or so, their choice becomes balanced. But the large variety of foods in our mixed diets appears to have perverted our appetites as adults. Where the calories are not exceeded, no great harm may result from mixtures; but Addison's rule can help to avoid overeating: 'Make your whole repast out of one dish.'

"In other words, after the age of 40, when you eat protein—eat protein. Avoid the use of sugars and carbohydrates and proteins in the same meal. Our mixed diet is in such common usage that we are not aware of its burden, and we take our indigestion, arthritis, backaches, headaches, heart attacks, and cancer for granted as necessary evils.

"The simultaneous excess of readily available sugars and amino acids provides an excellent medium for the synthesis of proteins, purines, nucleic acids, etc., that may give rise to virus-like particles, enzymes, or compounds that disturb the normal inhibitors of growth in adults and take on an independent growth of their own, resulting in malignant growths of various kinds.

"The monodiet is made difficult by milk and beans because they are rich sources of both carbohydrate and protein. Fruits, on the other hand, being primarily sugars and minerals, fit nicely into it."

Blossoms and Seashells

OUR plant breeding mentor and colleague in retirement, Albert F. Yeager, writes from his new home in Fort Myers, Fla.: "We get good apples here (at a good price) from all sections—western Delicious, Virginia Staymans and Romes, and New England McIntosh. Our little backyard garden gives us more vegetables than we can use."

I suspect that Doc Yeager's wonder over the mysteries of life is responsible for his great work in plant genetics. It has also provided him and his wife with a new hobby, the collection of seashells. The whorls and recesses of the univalve and pearly nautilus are as wonderful in their design as fruit blossom petals.

Oh, Boy!

By **Fay Kuhlman, Billings, Mont.**

Don't take a pill to keep you calm,
Eat apples night and day.
They tranquilize by Nature's rule,
So doctors wisely say.

When everybody gets you down,
And everything's a bore,
Find fun and zest and live it up
Like Adam did before.

Eat apples, at least two a day,
Live calmly every hour,
For doctors now agree with Eve,
The apple's got the power!

... After which it is appropriate to pass along the question of Earl Fick of Yellow House, Pa., "Can anyone tell me where to obtain American Pippin (Grindstone) or Yost apple trees or grafts?"

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

AMERICAN FRUIT GROWER

ROAD TO MARKET

(Continued from page 16)

alternate use of land has been attractive to California growers, too much so, in fact. The production potential

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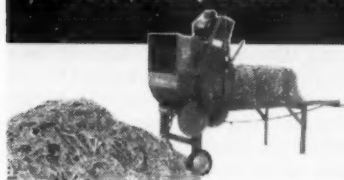
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PEACHES

(Continued from page 51)

sold on pneumatic pruners, and built a mobile platform to get the fullest benefit from "outside-in" pruning.

The first of our recent drought years set him back \$9000, he says, and clinched his decision to strip his cash reserve to drive two 10-inch and one 12-inch well and equip for irrigation. It has paid off even in years with ample rain by "frost-proofing" his berry fields.

Gaston did not give weight to his essential items, but the two which McUmber lacked, suitable sites and soils, are generally conceded to be heavy weight factors for orchard success. There are no hills or even good slopes to provide air drainage, but still enough to require terracing to prevent soil erosion.

Some blocks suffer today because terracing prevented adequate tree spacing and this, in turn, is reflected in poorer tree structure. The tree-hoe, his latest innovation, has almost freed his latest planting of terraces, so he can keep it in permanent sod.

Ralph's steadfast, "general farmer" belief in high soil fertility has been hard to shake, and years of heavy, winter legume cover crops has resulted in delayed fruit maturity, necessitated heavier pruning, and posed serious threat to tree hardiness here, where sudden fall freezes occasionally reach zero.

Last December, when the hort society held a field day in the orchard, a block of two-year-old Lodi apples were 75 to 80% full foliage. When asked about the time and amount of nitrate applied he said, "They've not been nitrated!"

We don't want to give the impression that only good luck has made Ralph's venture successful. He can match most any reader's "hard-luck" story. He had no capital reserve and made his start during the same depression years that ruined many an established orchard.

Frost wiped out his first peach crop in the critical third year, and black root rot crippled his first apple orchard so badly that it was pulled before reaching its prime. The record freeze in late March, 1955, wiped out the fruit crop, and the crop on a "catalog-picture" block of 4-year-old peaches was sacrificed to chemical thinning experience. Enough?

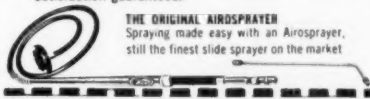
The factors which contributed most heavily to this fruit grower's success came from within the man himself—tireless effort, courage, faith, leadership, integrity, neighborliness, willingness to learn even though it hurt, and giving his best to each job he faced. THE END.

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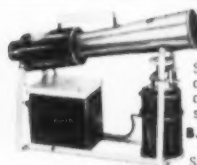


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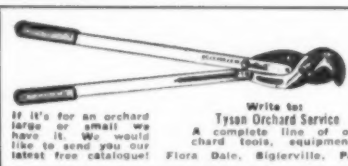
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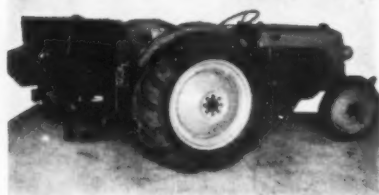


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ROAD TO MARKET

(Continued from page 16)

It is a prevalent but false notion that marketing orders are synonymous with quantity restrictions. Actually, quantity control is only one of the provisions and in California only 14 of the state's 32 orders have such authority. Only clings, cantaloupes, Brussels sprouts, lettuce, and canning olives use it.

All has not been smooth sailing for the order covering clingstones which are the nation's largest single pack of canned fruit—24½ million cases in the available supply of the 1959-60 season. But in the surge of production of processing fruit in the past decade, the order has prevented in clings the all too frequent "boom or bust" situation that has prevailed in other crops.

Quality standards for No. 1 clings have been established to the general satisfaction of growers, packers, and the retail trade which is more than most fruit industries, including clings' cousinly competitive rival, the freestone peach, can boast.

Advertising and promotion programs, now directed by William Hoard recruited last year from the Northwest pear industry, have acquired national stature, are a proven stimulator of sales movement, and have overcome the early suspicion of growers to whom promotion was an alien activity. This program operates under the sharp eyes of a grower-packer committee and is obliged to promote clings and fruit cocktail without reference to brand names. Sales of more than 20 million cases of clings and about 8 million cases of fruit cocktail and other cling products so far this season indicate the promotion bureau has been getting a lot of mileage out of its allocated funds through tie-in advertising and promotion.

Research except in production techniques has not been too successful chiefly because clingstones, to date, have not been found adaptable to any profitable purpose beyond canning as a food. Best usage results have been in the fields of baby foods and dietetic products which now absorb 25,000 tons of fruit.

Education of growers in market economics has been a major forte of the cling organization and there are probably no better informed growers in the United States on market situations affecting their crop—including the effects of other competitive fruits and desserts on sales—than cling peach growers.

Quantity control is still a major issue. Because of the stability of the industry during the past decade, the planting of cling orchards as an

alternate use of land has been attractive to California growers, too much so, in fact. The production potential for 1960 is in excess of 700,000 tons and it is doubtful if consumer demand can be pushed beyond 575,000 tons. (Last year's marketable tonnage was set at 565,000 tons.)

Five times in the last 10 years the industry has had to engage in surplus programs. Its primary diversion weapon is the spring "green drop" performed on a percentage basis. (A "green drop" means the mandatory removal of peaches from producing trees at thinning time.) It also uses a cannery diversion at harvesttime to tailor the pack to specific volume if crop production runs beyond estimates or if the "green drop" fails to do the necessary curtailment job.

It can hardly be said that marketing orders belong in the non-controversial area of agriculture. Even among those who have long operated under their banner, there are disputes on procedure and over whether the orders should be continued. There is one current argument in clings that the marketing order encourages growers of other fruits to gain advantages in the competitive canned fruit market.

The disputants allege that the ceiling on cling tonnage allows freestones, pears, and other fruits to grab an extra share of the expanding canned fruit sales. Although this argument seems to have some superficial validity—last year there was a record pack of canned pears and canned freestones—it is a correctable situation which can be accomplished by boosting the pack of clings. This actually was done last year when, at the insistence of growers, the maximum harvest was raised to 570,000 tons of clings. (Normal culling brought the crop under the allowable quota.)

In strict logic, what those who protest the protection against glutting the market with clings are saying is that the cling marketing order, by stabilizing its own supply and demand picture, has diminished the chaos in other fruit industries. This is probably true enough but it has also prevented chaos for clings as well, and cling products account for more than half of California canned fruit sales.

One obvious situation exists in the California fruit business. A clingstone grower or processor is more welcome as a borrower at a banking institution, as long as the marketing order operates, than the producer or processor of most other commodities. In California this is an extremely significant condition, and a favorable one, for a specialty

"Just what the tree Doctor" **ORDERED!"**

NEW FOR

crop which requires extensive seasonal financing, on farms and in factories, to produce a crop.

The marketing order for clings has operated well within a \$3 million annual cost figure for many years and last year's budget total of \$1,800,000 for advertising and \$1,100,000 for administration was its most expensive. This is hardly an excessive charge for an industry that produces a crop worth \$150 million as it enters the retail mart.

In the present cost-revenue agricultural crisis, the marketing order has developed an array of both tangible and intangible benefits for cling growers. Although overproduction has become a bothersome affliction, there has been no chaotic dumping of canned clings on the market and no grower yet has been pushed into a "distressed selling" position. No clings have had to go without a home for delivery. Once a grower has met his diversion quota and quality standards, his product is sold on delivery.

The third party grading system has provided an equitable, universal inspection program for big and little grower alike and the standards for No. 1 fruit assure the consumer of a quality product.

The long term results are rather interesting. The statistics show that cling growers have sold on the average 480,000 tons of fruit per annum and have received an average price of \$65.35 per ton during the past 10 years. In that same period 8% of total production has been diverted from the marketplace to maintain industry stability.

Although the clingstone marketing order is the most elaborate in California, farm commodities of the state last year were sold under 32 state and 16 federal marketing orders. The state programs alone covered crops with an aggregate farm value of about \$400 million, more than 40% of California's cash receipts for the sale of fruit, truck, and potato crops.

At this stage of their development, marketing orders generally have been used to solve specific commodity problems and have frequently been tailored to specific situations. For effective usage they require skilled management blended with appreciation of short-run and long-range implications.

To what extent they can be expanded as an answer to farm problems is an intriguing facet of agriculture's future.

One factor seems certain. The marketing order could become a pliable tool in the great battle agriculture faces in learning how to adjust its supply to demand. THE END.

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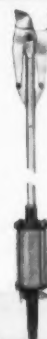


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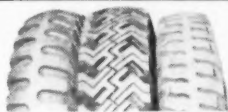
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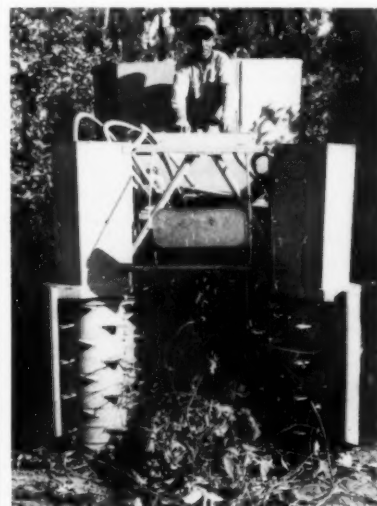
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Unfortunately, every fruit tree has to be pruned, and, thus, every commercial fruit grower knows how troublesome the job is of ridding the orchard rows of the prunings. Out on the West Coast, Ventura Coastal Lemon Company has solved the pruning problem in a unique and effective way. Although lemon trees are usually lighter to prune than deciduous fruit trees, the same equipment and methods apply in either case. The lemon growers in California have built a self-propelled unit mounted on a Caterpillar D-6 frame. Powered by a Ford 534 industrial engine, the machine moves easily through the orchard. The pruning cuttings are windrowed. Three hydraulic motors, one which



raises the front end and the other two which power the feeding mechanism, provide a positive flow of material from the windrowed cuttings to the chipper for disposal. The chipper unit that cuts the pruned material has a cylinder and housing 32 inches in length. Standard parts will fit the unit, making for ease of repair and maintenance. It requires only one man to operate the machine and the entire grove is cleaned up quickly, economically, and easily. In addition, through the use of the chipper, which is an integral part of the disposal unit, the wood chips which are manufactured and returned to the orchard floor soon provide added humus for more vigorous growth and greater fruit yields. Here again is another good

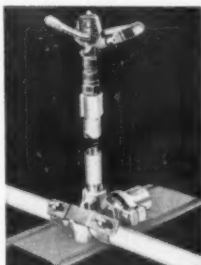
AMERICAN FRUIT GROWER

DON'T TAKE CHANCES!

example of how growers through initiative and a little thought have decreased costs and are thus maintaining satisfactory fruit profits. Indeed, I hope that you will take a minute and write to Harold Gentile, Asplundh Chipper Company, 501 York Rd., Jenkintown, Pa., for full details on the brush disposal units.

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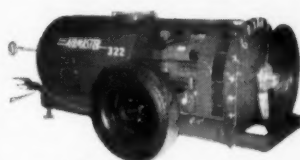
Superior Mowing

Pictured below is an entirely new type of sickle bar mower which will speed up mowing cover crops and drastically reduce orchard mowing costs. The double eccentric operates two sickle bars, one above the other. The sickles move opposite to each

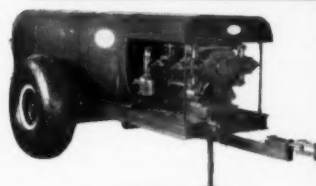


other, the knives closing on each other like scissors, two and one-half times faster than the knives of a conventional sickle. The new sickle is called the Superior-Parmel Double Sickle Mower and R. Allen Wahl, of Superior Equipment Co., Wheeling, Ill., would be glad to send you full particulars.

APRIL, 1960

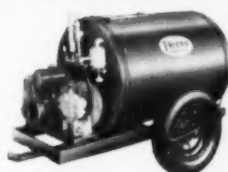


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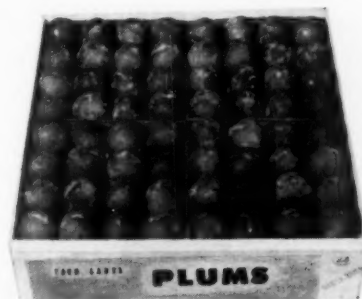


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AMERICAN FRUIT GROWER

Willoughby, Ohio

MACHINE HARVESTING

(Continued from page 15)

be operated effectively in closely planted orchards or on uneven, hilly ground. Trees that are so dense that the operator has difficulty in seeing points at which the shaker can be effectively attached must either be hand-picked or opened up by pruning. Many young, vigorous plantings fall into this category. This probably means that the machines used last season could not be employed effectively in more than half of the existing plum and cherry plantings.

The claw by means of which the shaker was attached to the tree caused some bark damage. Although



Following machine-harvesting plums are removed from conveyor belt into baskets, dumped into bulk bins, shipped to processor.

this problem is being studied, it may be some time before the seriousness of the injury can be accurately determined. In the meantime, efforts are being made to improve this part of the equipment.

Carelessness and/or inferior handling equipment damages both cherries and plums and lowers their grade. Some lots of machine-picked fruit failed to measure up to acceptable grade standards.

The problems mentioned are very real, and taken together they probably mean that cherry and plum growers have only a qualified go ahead as far as mechanical harvesting is concerned. Harvesting machines are, however, going to be used in several large commercial cherry and plum orchards during the coming season.

Several types of equipment will be tried. Thousands of trees will be involved, and mechanically minded growers as well as state and federal investigators will be hard at work on the problem. Better equipment is sure to be developed; and by the time the human pickers who have done the work in the past stop coming, we are almost sure to have machines that can take their place. THE END.

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5 1/2 ACRE FARM IN THE SUNSHINE state. Modern home, big barn, garage, also have house with rental apartment in city. Write Box 51, PLANT CITY, FLORIDA.

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80 ACRES APPLE ORCHARD, FULLY equipped, tractors, sprayers, cold storage plant, cider mill, retail road-side store, etc. Low rental for the first year. AMERICAN FRUIT GROWER, Box 211, Willoughby, Ohio.

IDEAL ORCHARD LOCATION, WITH 1/2 mile of Inland Lake Frontage, about 75 acres of producing apple trees. Best varieties; exceptional air drainage; equipped; and irrigation. One hour to Benton Harbor market. Spacious ten-room home with furnace, two baths and fireplace. See it. Aged owner selling. Will consider reasonable terms. Write or phone: DAVID ANDREASON, Realtor, Box 216, Sawyer, Michigan. Phone: New Troy HAZel 6-1717.

80 ACRES—5,348 FRUIT TREES—1,878 Apples—2,530 peaches—896 pears—38 sweet cherries—55 plums. All less than 20 years old. Modern three-bedroom home, 5,000 bushel fruit storage, many other buildings including housing for help. High elevation near Lake Michigan making this frost-free location. Near world's largest fruit market. 18,000 gallon per hour irrigation well in center of farm. Completely equipped. Priced to sell with terms available. MELVIN ANDRUS—owner. R. No. 4, South Haven, Mich. Telephone 21-F-11.

PERSONALS

PRACTICE DAILY BIBLE READING.

PLANTS AND SEEDS

AFRICAN VIOLETS — ROOTED LEAVES. Fresh cut leaves. Free list. LOUISE JIVDEN, Piney View, West Virginia.

HARDY GARDEN CHRYSANTHEMUMS, 200 popular varieties. Catalog free. Special offer: 20 plants, \$2.35 postpaid. FLEM TREE PERENNIAL FARM, Southington, Connecticut.

ASPARAGUS PLANTS: MARY WASHINGTON 3 years old, \$3.50 per 100. And Martha Washington 2 years old, \$3.00 per 100. Plus shipment. RUDOLPH SZEWCZYK, Paw-Paw, Michigan, #3.

500 ASSORTED SWEET ONION PLANTS \$2.00. Postpaid. Fresh from TEXAS PLANT COMPANY, Farmersville, Texas—"Home of the Sweet Onion".

PRINTING

PRINTED LETTERHEADS, ENVELOPES, billheads, shipping tags, etc. WM. EVENDEN, 1992 East 17th Avenue, Eugene, Oregon.

RABBITS

RAISE ANGORA, NEW ZEALAND RABBITS on \$500 month plan. Plenty markets. Free details. WHITE'S RABBITRY, Mt. Vernon, Ohio.

SITUATION WANTED

NEED WORKERS? HARD WORKING Farmers and ranchers (men only) from Mexico's cool highlands want permanent year around U. S. jobs. Allow three months for worker's arrival. For free information, write: S. D. CORONA, Office 17-K, Morelos 516, Guadalajara, Mexico.

WANTED TO BUY

WANTED: SMALL SIZE USED APPLE sizer and brush. B. C. ARNDT, Mondamin, Iowa.

WANTED TO BUY: USED FRUIT-O-MATICS. FRED MAZZACANO, Hudson, N.Y.

WILLS

MAKE YOUR WILL! TWO WILL FORMS \$1.00. NATIONAL, Box 48313P, Los Angeles 48, California.

WANTED

MEN AND WOMEN

GROW MUSHROOMS. Cellar, shed and outdoors. Spare, or full time, year round. We pay \$4.50 lb. dried. We have 29,000 customers. FREE BOOK. Washington Mushroom Ind., Dept. 321—2954 Admiral Way, Seattle, Wash.

FOR OUR READERS

Because Roadside Stand Sales are becoming more important and profitable, we thought we could help you by making Roadside Stand Signs available at the lowest cost.

The signs are printed on waterproof, heavy board—22" x 28", in two colors. One color is Orange Day Glow which shines in the daytime. The sign has a dark green background. It is eye catching and appealing. Here is what it looks like—

STOP
"BUY THE BEST"
FARM FRESH
PRODUCE

In addition, individual fruit and vegetable strips, which can be attached to the big sign, are available. These strips are 28" long x 5" wide. Here is what they look like—

SWEET CORN

PEACHES

The price for the Big Two Color sign is \$3.00 apiece, or two signs for \$5.00. The strips are 50c apiece or 10 for \$3.50.

Send Your Order To—

Roadside Stand Sign Dept.
AMERICAN FRUIT GROWER
PUBLISHING COMPANY
Willoughby, Ohio

American Fruit Grower

• Fruit for Health •

RICHARD T. MEISTER, Editor
H. B. TUKEY, Associate Editor

Labor Unions and the Grower

IT was over a year ago that a discussion on farm labor was presented by Food Producers Council before the annual meeting of New Jersey State Horticultural Society. Some points were made then that are still good, and which are worth repeating.

The legal advisor to the council was present. He told how an unloading charge of \$7 a load had risen to \$20.80 a load, with the grower unable to pass the cost along. He asked growers to send information to the council concerning any coercive union activities. Unloading charges

were a case in point. Growers who would not speak out, he said, were victims of their own actions. Some unions use a fear psychology which is more bark than bite. When confronted with the facts, unions will back down.

The answer to the problem lies in the strength of organization among farm people and the assistance of good legal council. We permit the unions to impose upon us because we fail to heed these admonitions.

It is always the same old story; nobody will do it for us. We must do it ourselves.

Ezra Jacob Kraus

WHEN on February 28, 1960, Dr. E. J. Kraus died at Corvallis, Ore., there passed from among us a man to whom society, the plant sciences, horticulture, and especially the fruit industry are deeply indebted.

Born in Michigan in 1885, he graduated from the then Michigan Agricultural College in 1907, joined the staff at Oregon Agricultural College, and successively served on the faculties of University of Wisconsin and University of Chicago. Retiring in 1948, he returned to Oregon Agricultural College for which he had great attachment.

It was in Oregon that he conducted studies in pruning, in fruit bud initiation, in the developmental morphology of the apple, and in other fundamental research in fruits, which are classic. On leave from Oregon, he earned his doctorate in botany from University of Chicago in 1917, and carried on research jointly with the late H. R. Kraybill. This research culminated in the famous carbohydrate-nitrogen relationship in plants—still a useful concept to anyone trying to grasp the fundamentals of blossom-bud formation and fruiting.

Dr. Kraus was a pioneer in research in daylength and with plant regulators, including their use for preharvest control of fruit drop and as herbicides. He possessed the genius to select the fundamental approach to the solution of a problem, the persistence to carry it through to the proper solution, the perception to find useful application.

Modest almost to a fault, honors

nevertheless sought him out. He was a past president of American Society for Horticultural Science, Botanical Society of America, and American Society of Plant Physiologists. He received the Marshall P. Wilder medal of American Pomological Society, and was the recipient of awards from Men's Garden Club of America and many other botanical and horticultural groups and associations. The hardy chrysanthemums, lilies, and azaleas which he bred are crowning glories.

He was a sympathetic, understanding, and affectionate person, helpful to anyone regardless of station in life who seemed to him to be genuine and sincere. He lives on in the lives he helped to shape and in the ideas which he generated and sent forth into the world of plant science and horticulture.

Fruit Growing is Such Fun!



Fruit Talk

Experimental shipments of fruit from Australia to the United Kingdom in half-ton bulk boxes have "proved conclusively that they provide a definite answer to the bruising problem." Not one out of 25,000 boxes was rejected on account of bruising, it is said.

The farmer's share of the consumers' dollar was lower in 1959 than in any year since 1939. The share for livestock was 52 cents; for dairy products, 45 cents; and for fruits and vegetables, 29 cents.

W. H. Darrow, Jr., of Putney, Vt., recounting the success of Vermont apple growers with airplane dusting, claims such advantages as extra time in spring rush, no tearing up of orchard floor, less material, low residues and reduced russetting, low water requirement, and speed —1 acre per minute!

Dutch fruit growing schools are said to have devised an artificial fruit-tree kit for pruning demonstrations, composed of slotted wooden sticks and rattan branches in different colors to represent various stages of growth.

Frank Owen of Illinois has gone one better by cutting a six- or seven-year-old fruit tree into sections which are doweled and replaced. Then in the comfort of indoors, a class or extension group can "prune" the tree as it desires—removing and replacing branches at pleasure from the "gimmick tree," as Owen calls it.

Reports from Norway suggest reduced fruit cracking in cherries (6 to 13%) where captan was used.

Fruit Varieties and Horticultural Digest, the official publication of the American Pomological Society, is an interesting, worthwhile, attractive, pocket-size quarterly devoted to brief reports on varieties and rootstocks—\$2 a year, Dr. George M. Kessler, Editor, Michigan State University, East Lansing, Mich.

"If a United States of Europe ever does come about—and it seems likely that this will be so—it will be only the efficient industries which will survive, and this means efficient growing, efficient storage, and efficient marketing," says C. P. Norbury, prominent English fruit grower.

Canada will no longer exempt small-lot imports (25 packages) of fruits from carrying government inspection certificates. (It seems that too many importers were circumventing the law by importing in 25-package shipments!)

Leaf analysis, says W. J. Lord of Massachusetts, is paying off very well as a diagnostic tool. With a desired range for McIntosh apple leaves of 1.80 to 2.00% for nitrogen on the dry weight basis; .90 to 1.40 for calcium; 1.25 to 1.60 for potassium; and 25 to .40 for magnesium, nitrogen has been found above the desired range in 24 out of 43 orchards and magnesium below in 34 out of the 43.

—H.B.T.

Coming Next Month

- Blueberries—B for Soil Acidity in Michigan
- The Sierer Bros.' Diversified Fruit Farm—a Three-Family Enterprise
- How to Control Red-Banded Leaf Roller
- Outlook for Cherry Bargaining

AMERICAN FRUIT GROWER

nobody likes you like Chevrolet

(and how this superlative '60 shows it!)

Nowhere will you find another car that caters to your driving wants like this one. That's because nobody else has gone to such lengths to find out what you want, and to give it to you. Eighteen sizzlin' new models for '60—every one designed for a particular set of requirements. Once you've picked out your favorite, give it a good leisurely going over and notice all the extra ways Chevy tries to please you (without once forgetting your budget):

Roomier Body by Fisher with a 25% smaller transmission tunnel.

Pride-pleasing style (combines good looks with good sense).

New Economy Turbo-Fire V8 (makes friends fast by getting up to 10% more miles on a gallon).

Widest choice of engines and transmissions (24 combinations in all—to satisfy the most finicky driver).

Hi-Thrift 6 (built with Chevy's famed ever-faithful dependability).

Coil springs at all 4 wheels (with the extra cushioning of newly designed body mounts to filter out road shock and noise).

Quicker stopping Safety-Master brakes (specially designed for long lining wear).

Chevrolet Division of General Motors,
Detroit 2, Michigan

CHEVROLET

there's nothing like a new car—and no new car like a '60 Chevrolet. This is the Impala 4-Door Sport Sedan.



See The Dinah Shore Chevy Show in color Sundays, NBC-TV — The Pat Boone Chevy Showroom weekly, ABC-TV



Three of the four generations of Schaefers who have operated these orchards. Left to right, Mr. W. A. Schaefer, Master Mark Schaefer and Mr. John Schaefer.

Mr. W. A. Schaefer says:

"Captan produces the finish the trade demands"

Read Mr. Schaefer's full statement above and see why another successful commercial grower considers Captan the most profitable fungicide he can use.

Most profit-minded fruit growers have found that Stauffer Captan 50-W, the quality fungicide, reduces scab to a minor problem when used in a full-season schedule year in and year out. It reduces overwintering scab fungi to such a low level that scab control is easier each succeeding year.

Stauffer Captan 50-W is easy on foliage, has "kick-back" or eradicant action against apple scab, lets fruit develop a superior finish and combines well with most other spray materials to help

meet special problems and conditions.

For example, a half dosage of Captan mixed with a half dosage of Stauffer Magnetic "70" Sulfur Paste or Microfine Dry Wettable Sulfur makes a safe, highly-effective pre-bloom spray to control scab and powdery mildew.

Use Stauffer Captan 50-W as your fungicide for apple scab and other diseases from pre-bloom right up to harvest. Use it, also, to control peach brown rot, blossom blight and scab; cherry brown rot and leaf spot; and strawberry fruit rots.

Stauffer Chemical Company, 380 Madison Avenue, New York 17, New York. Sales and service offices throughout the country.

Stauffer is one of America's largest specialists in farm chemicals. Look for and buy Stauffer brand INSECTICIDES, FUNGICIDES, WEED KILLERS, MITICIDES, SEED PROTECTANTS, FUMIGANTS, GROWTH REGULATORS, GRAIN PROTECTANTS, DEFOLIANTS.



